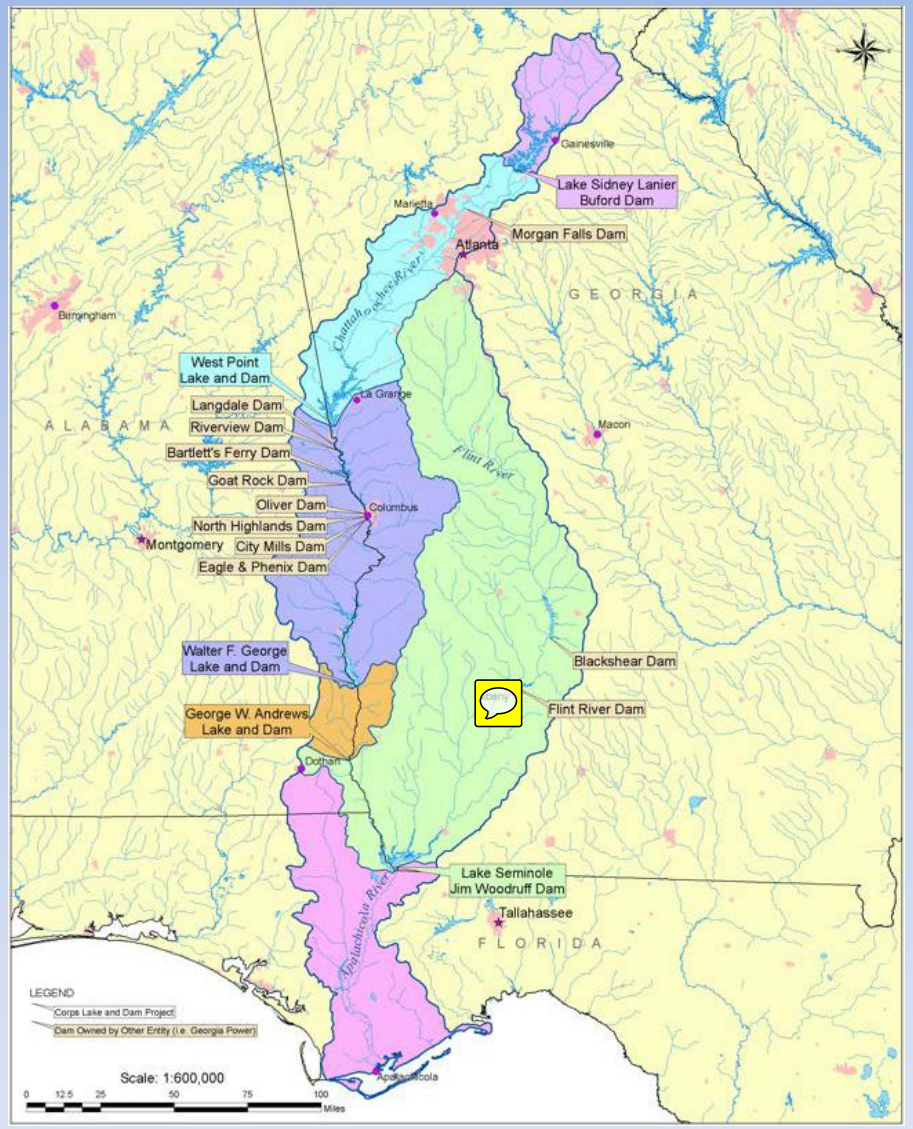
National Integrated Drought Information System

Southeast US Pilot for Apalachicola-Flint-Chattahoochee River Basin

27 August 2013



NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM

Outline

Welcome – Keith Ingram, Southeast Climate Consortium

Current drought status – David Zierden, Florida Climate Center, FSU

Streamflows and groundwater – Brian McCallum, USGS

Reservoir status and projections – Bailey Crane, US ACE

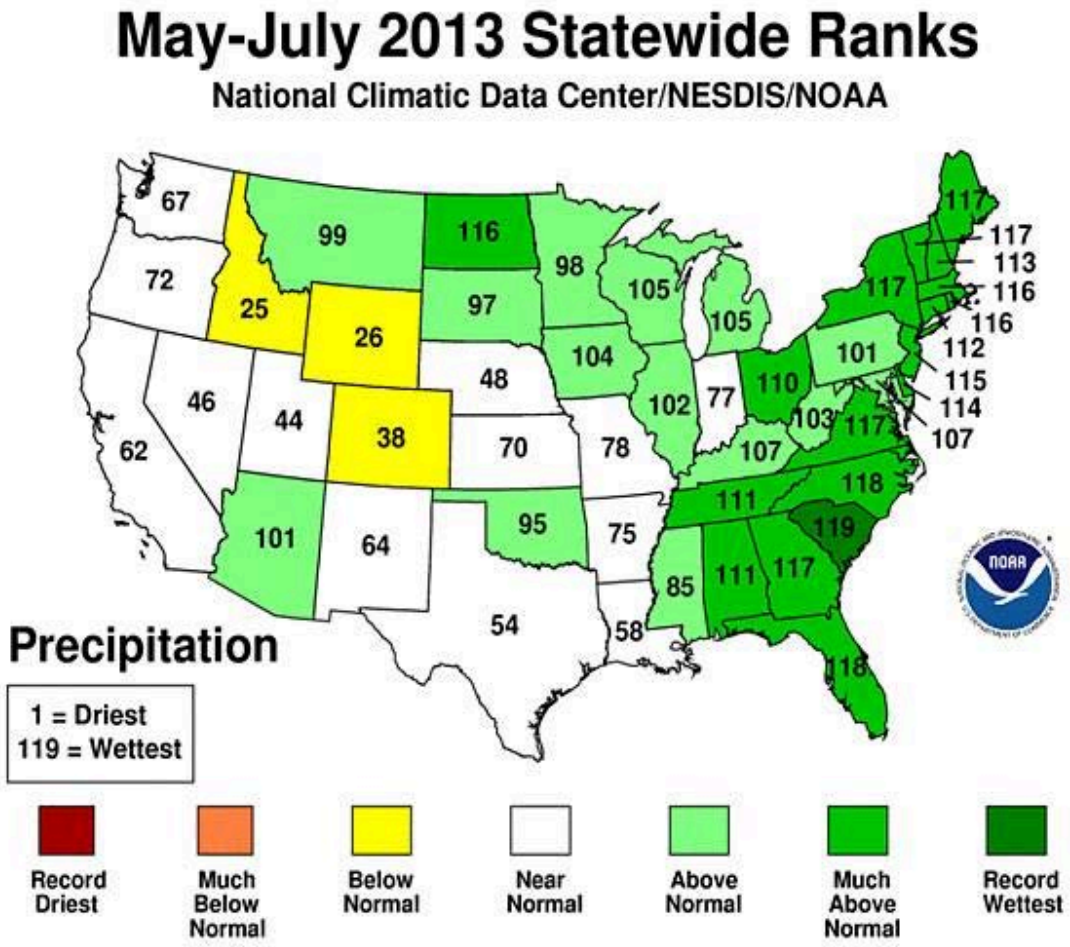
Apalachicola Bay salinity – Danielle Jones, ANERR

Seasonal forecasts and outlooks – David Zierden, FSU

Streamflow forecasts – Jeff Dobur, SERFC

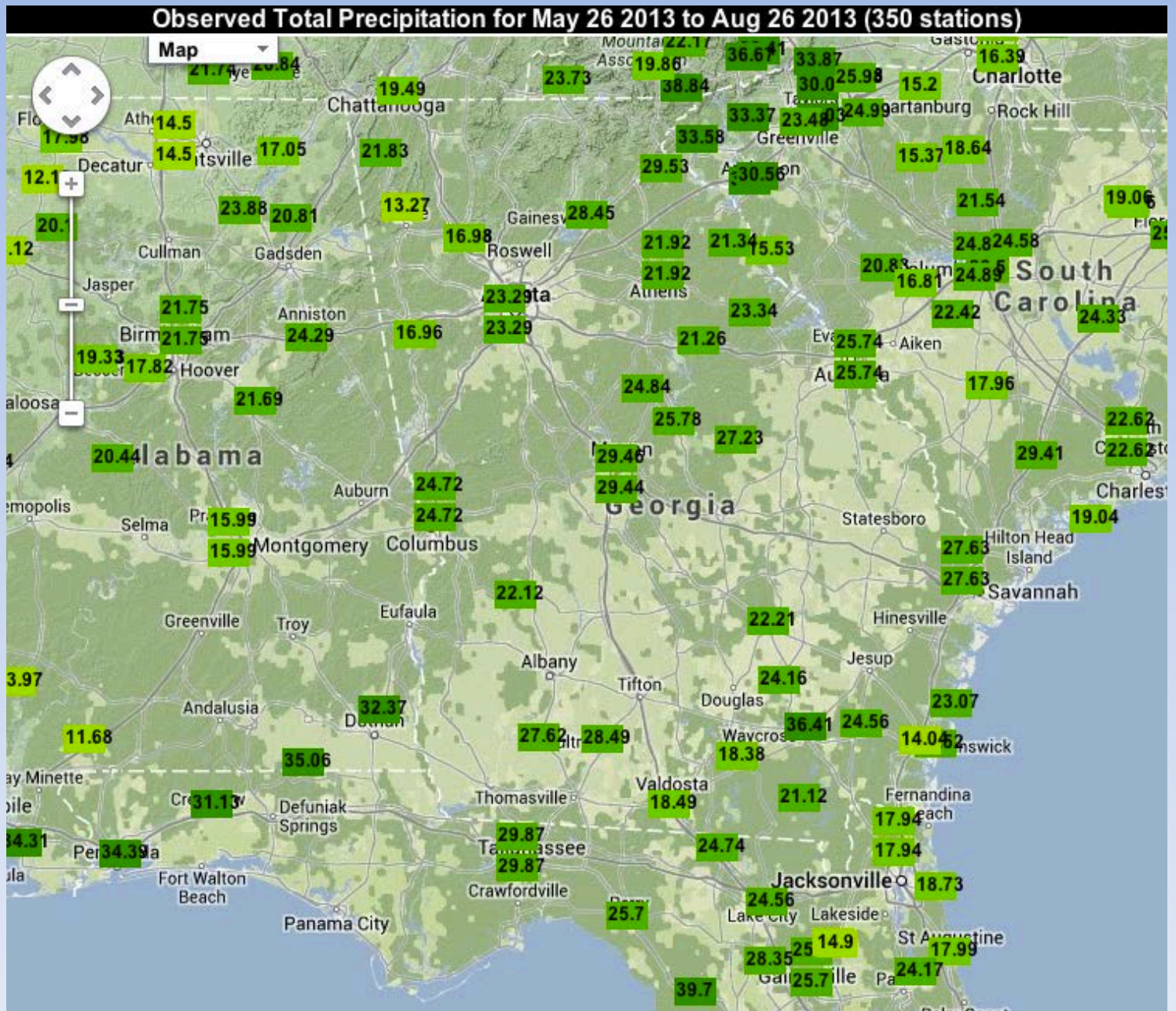
Summary and Discussion – Keith Ingram, SECC

How Wet Has It Been?

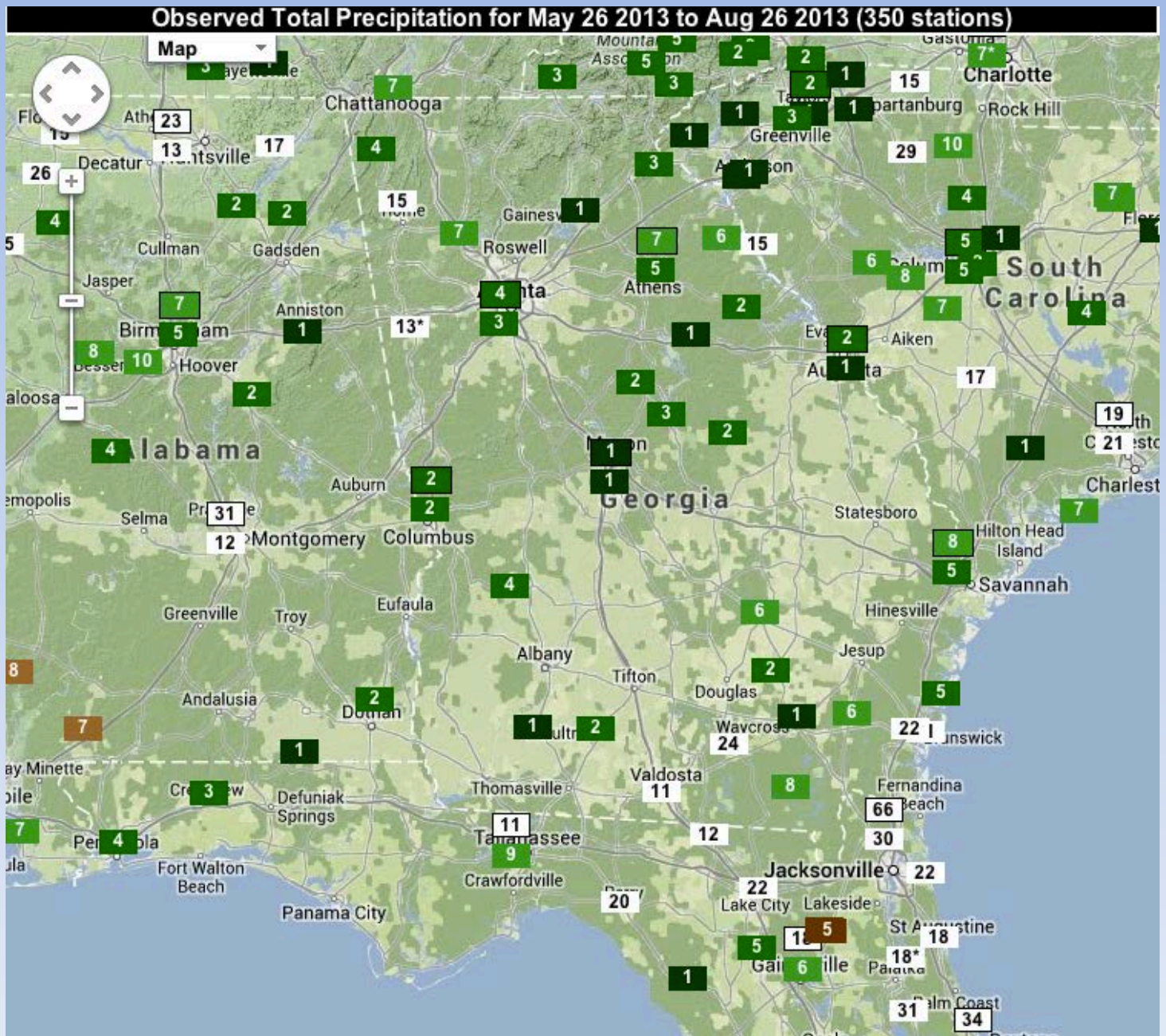


- Wettest July on record for Florida, Georgia and Alabama 4th wettest
- Wettest May-July on record for South Carolina, Florida 2nd wettest and Georgia 3rd
- Wettest Feb-July on record for Georgia and South Carolina

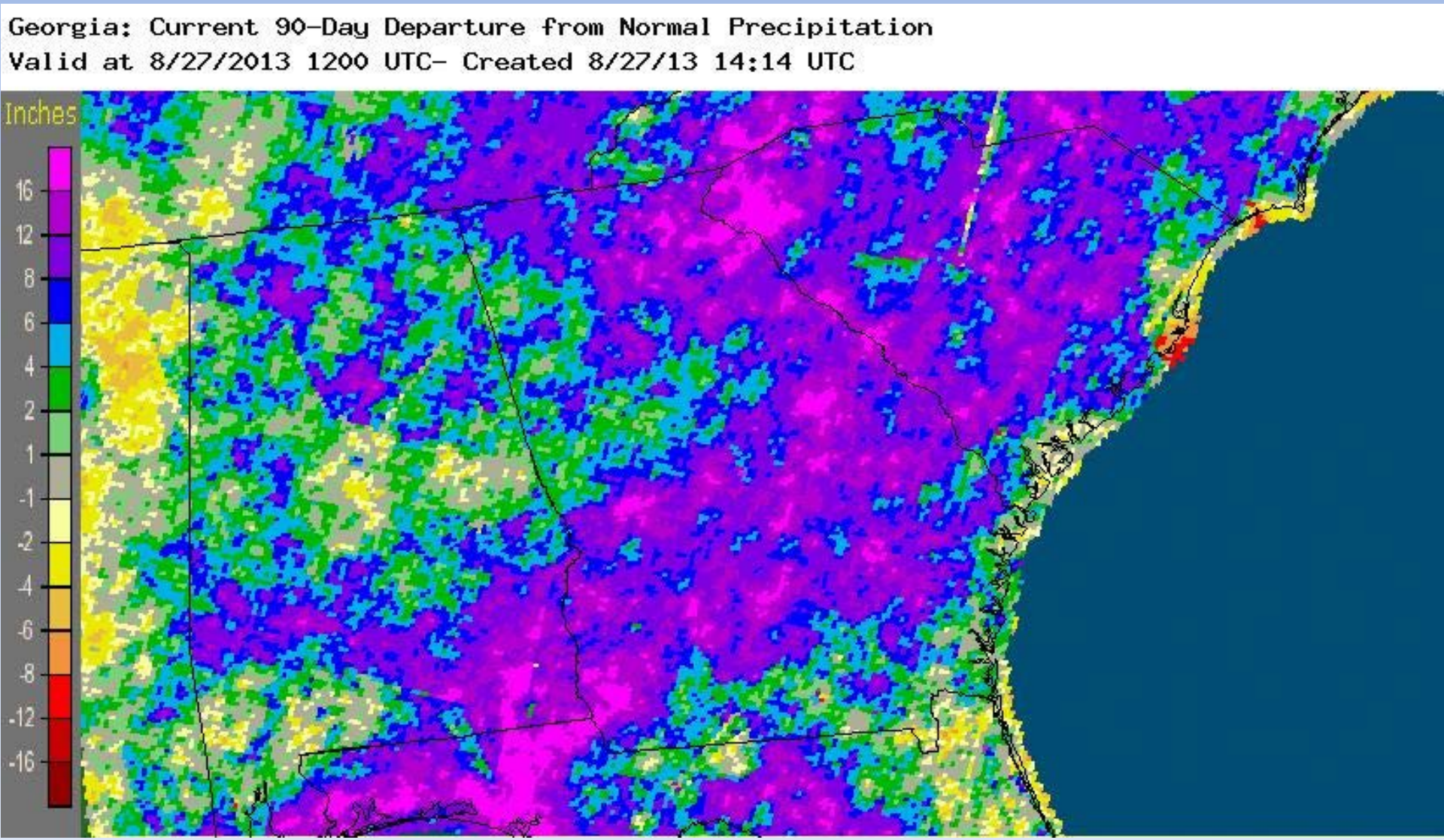
Most Recent 3 Months



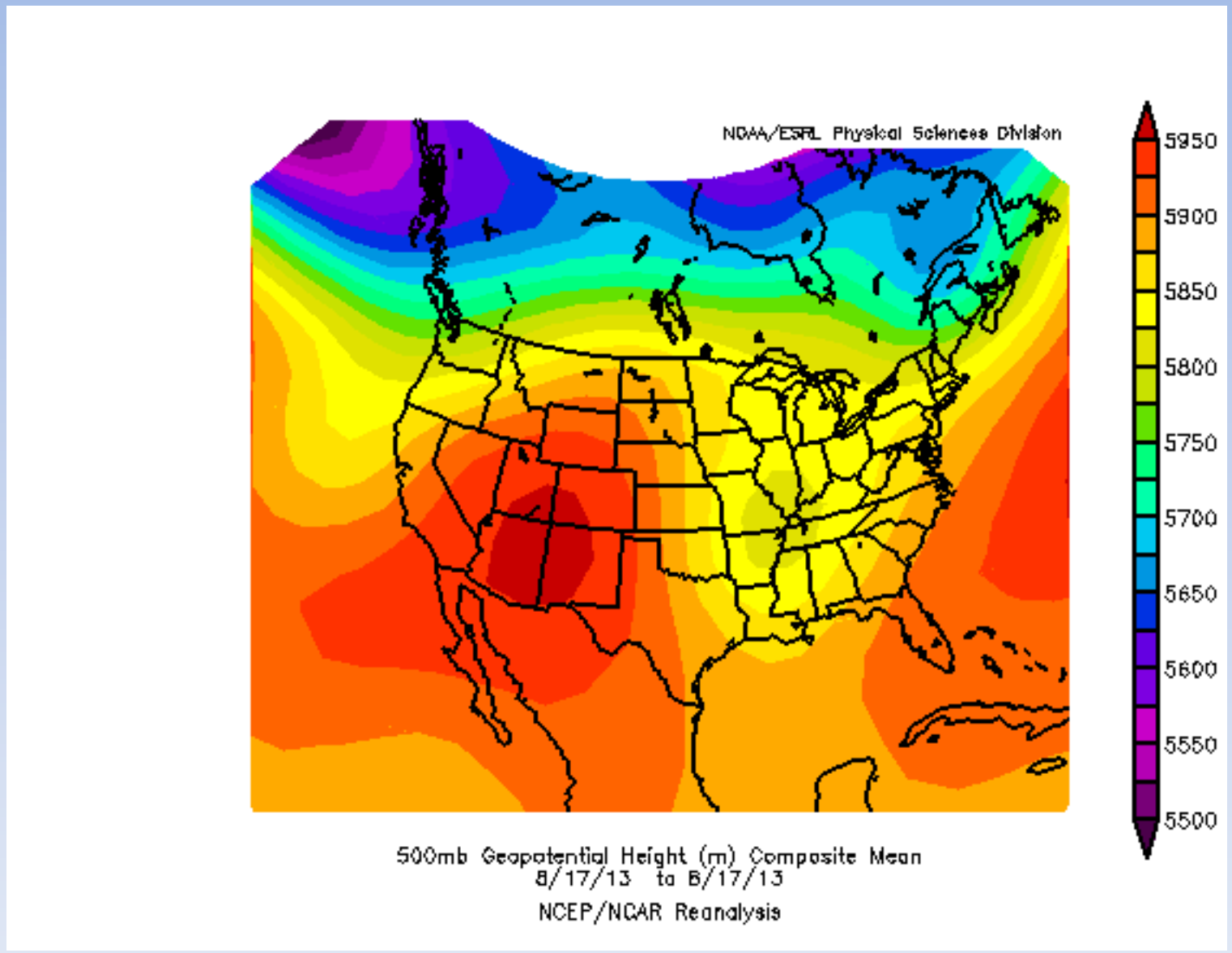
Most Recent 3 Months



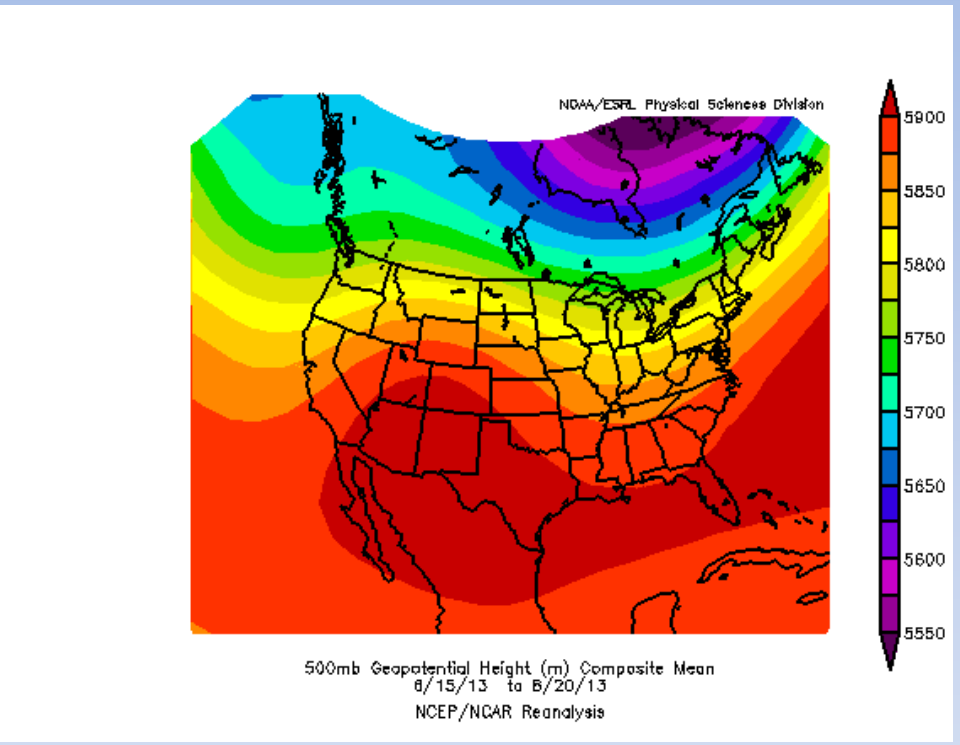
90-day Rainfall Surplus

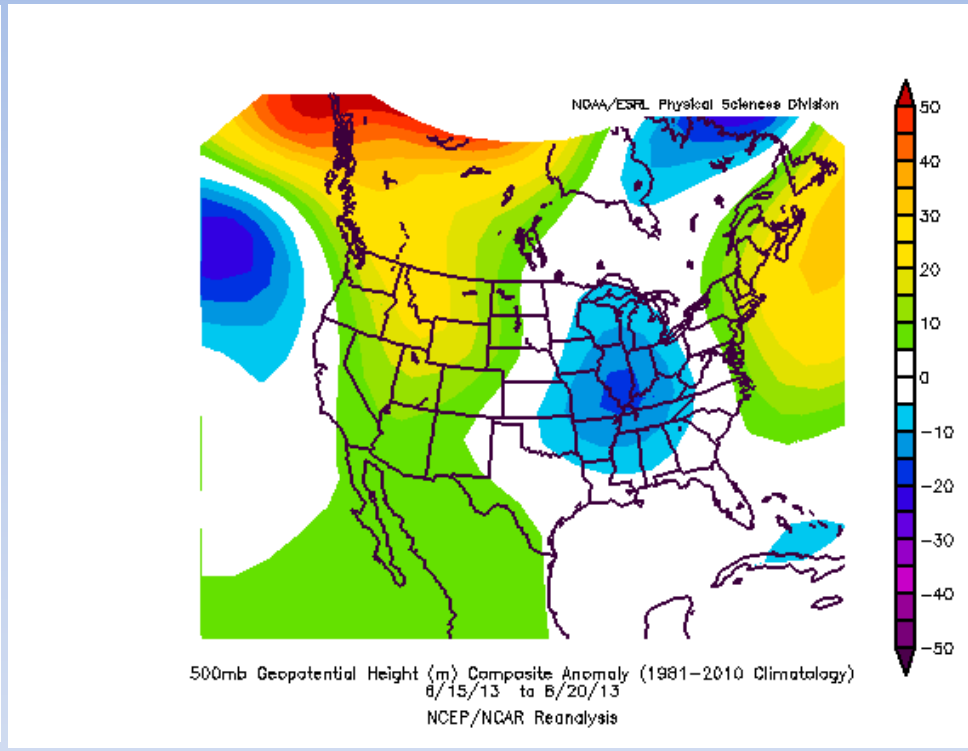


500 mb Heights (Aug. 17)



500 mb Heights (June 15-Aug 20)





Current drought status from Drought Monitor

U.S. Drought Monitor

August 20, 2013
Valid 7 a.m. EST

Southeast

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week (08/13/2013 map)	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago (05/21/2013 map)	87.18	12.82	2.04	0.66	0.00	0.00
Start of Calendar Year (01/01/2013 map)	29.15	70.85	45.65	20.64	9.58	2.10
Start of Water Year (09/25/2012 map)	66.49	33.51	17.18	11.50	8.53	3.52
One Year Ago (08/14/2012 map)	52.96	47.04	22.34	12.76	9.41	3.48

Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

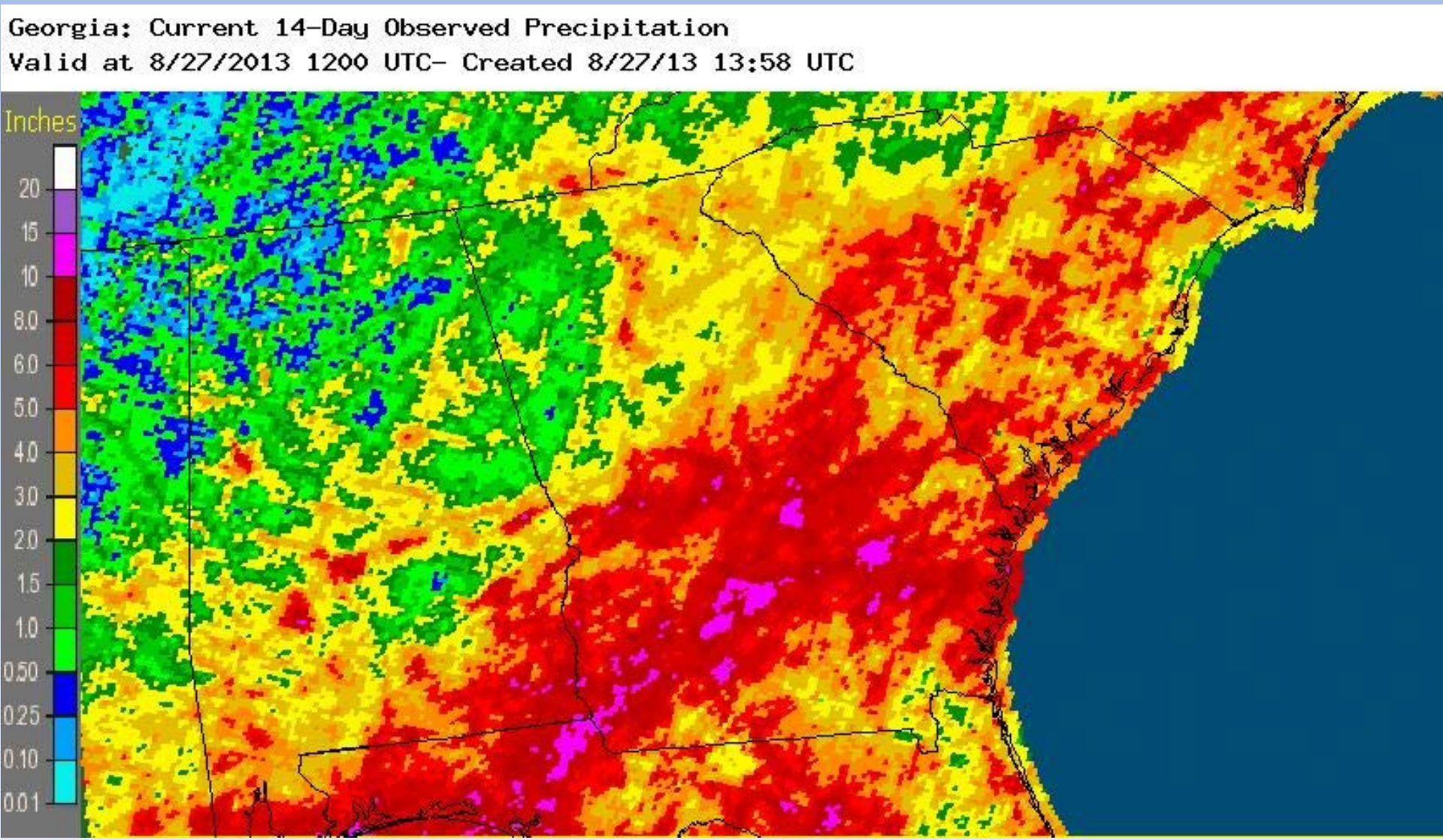
http://droughtmonitor.unl.edu

USDA National Drought Mitigation Center

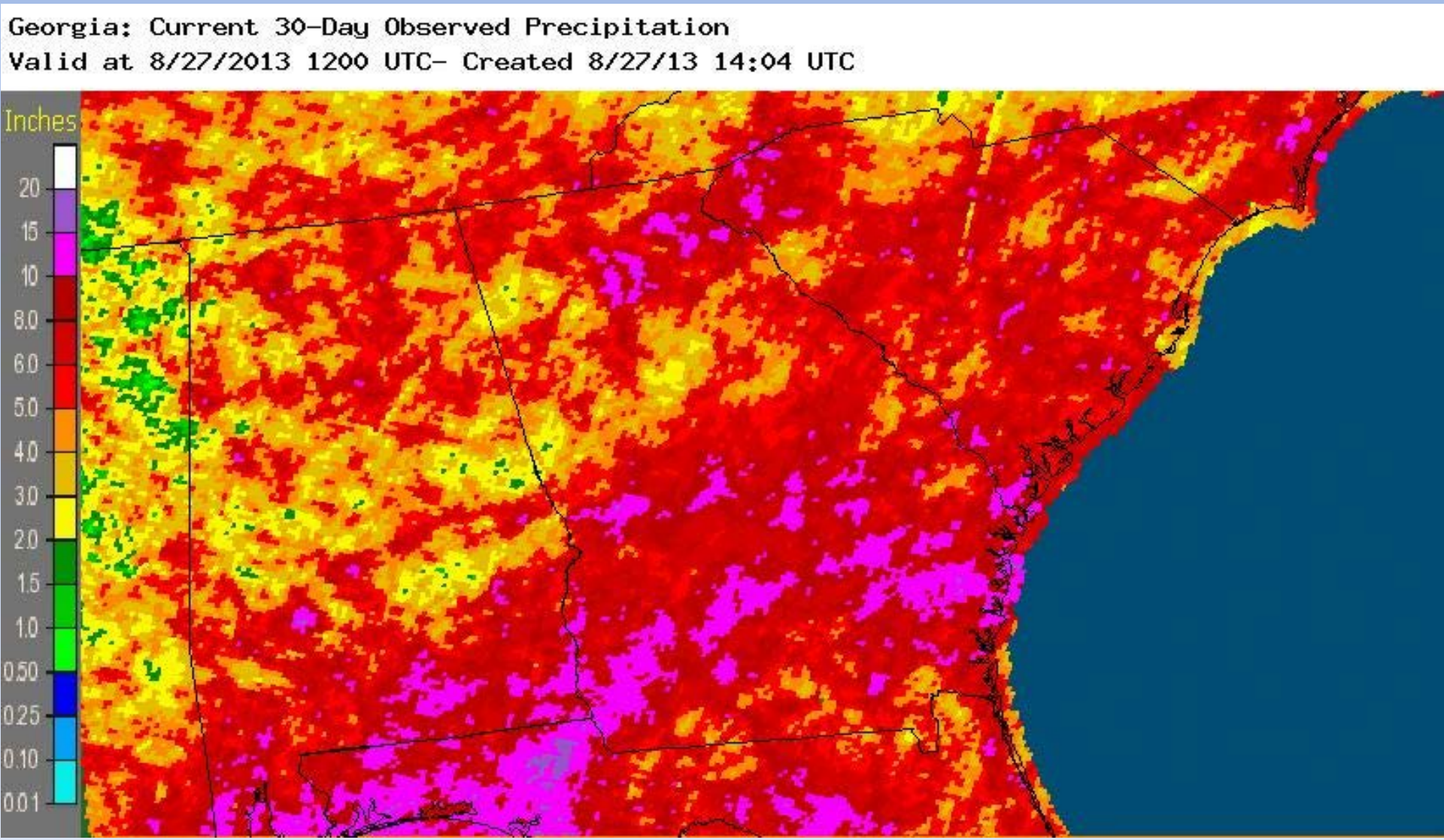
Released Thursday, August 22, 2013
Michael Brewer, National Climatic Data Center, NOAA

http://www.drought.unl.edu/dm/monitor.html

14-day Rainfall Totals

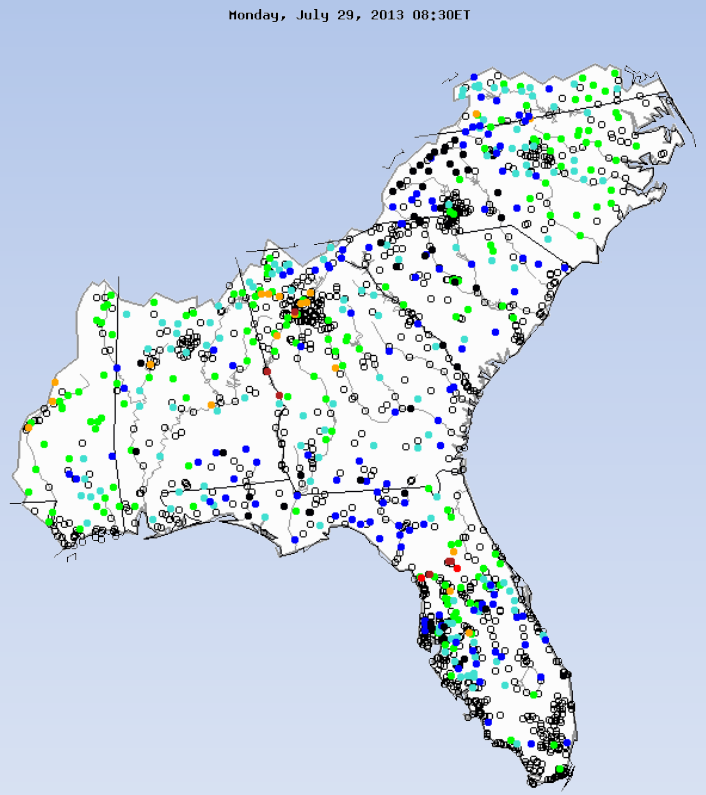


30-Day Rainfall



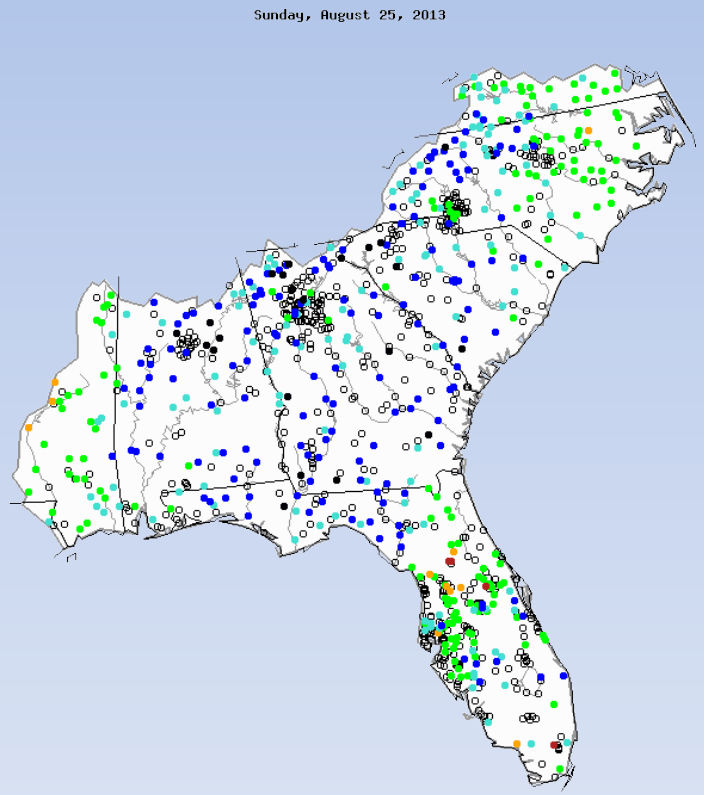
Realtime stream flow compared with historical monthly averages

Previous Brief:



USGS

Current:



USGS

Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

http://waterwatch.usgs.gov

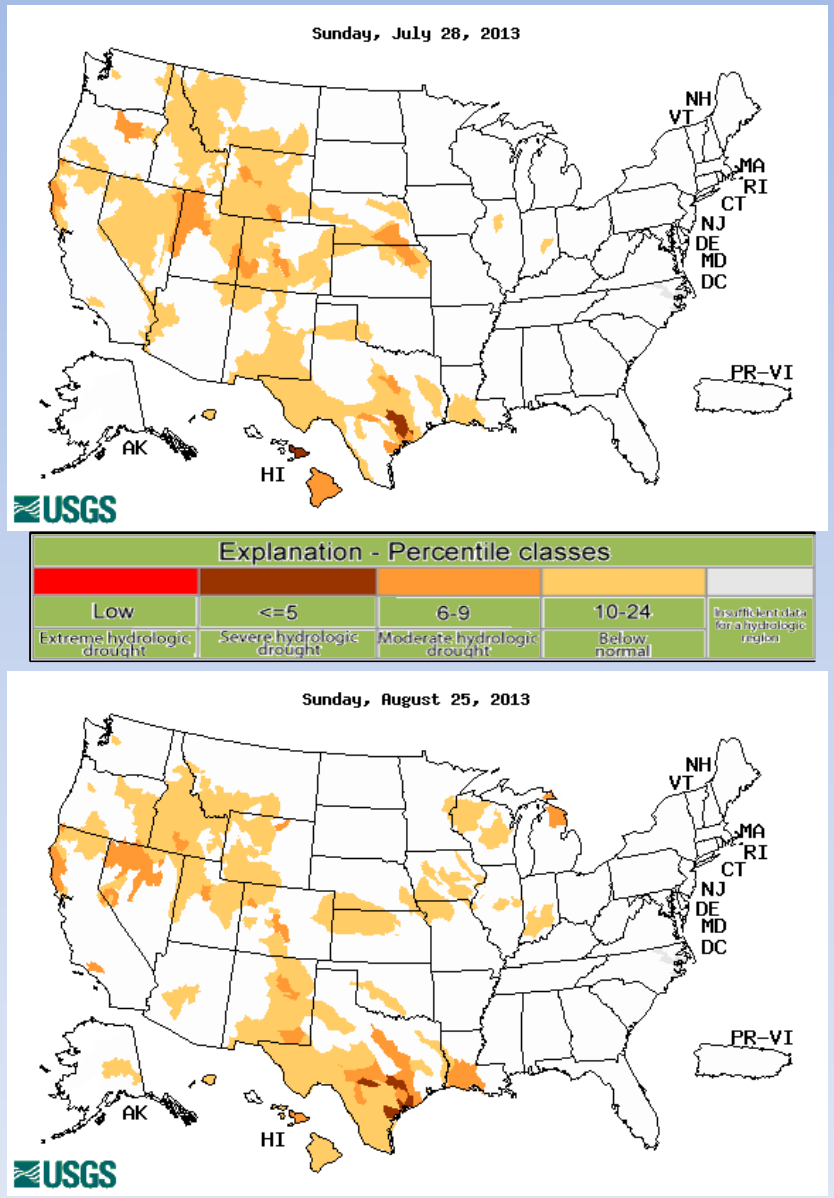
Below Normal 7-day Average Streamflows

Previous brief:

Below normal 7-day average streamflow as compared with historical streamflow for day shown

Current:

http://waterwatch.usgs.gov

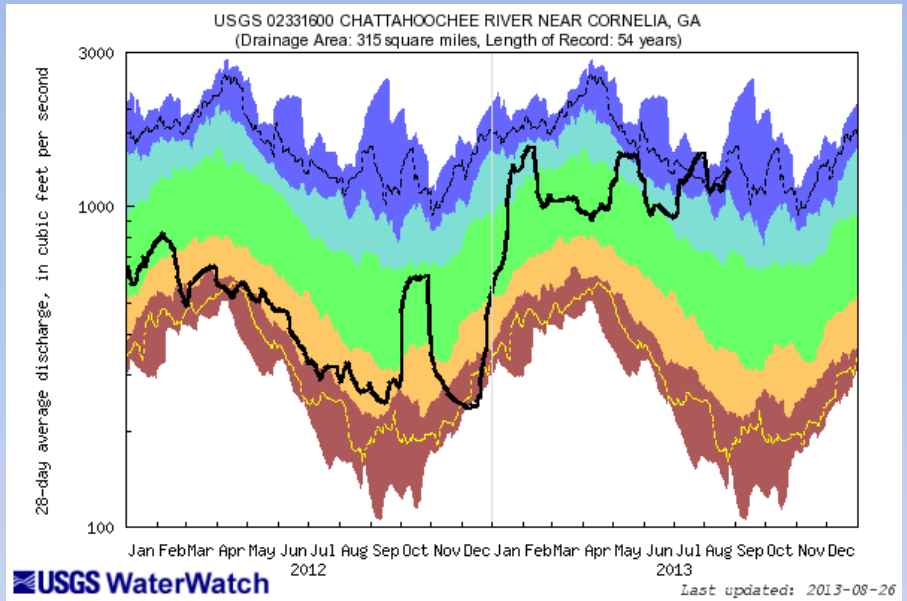


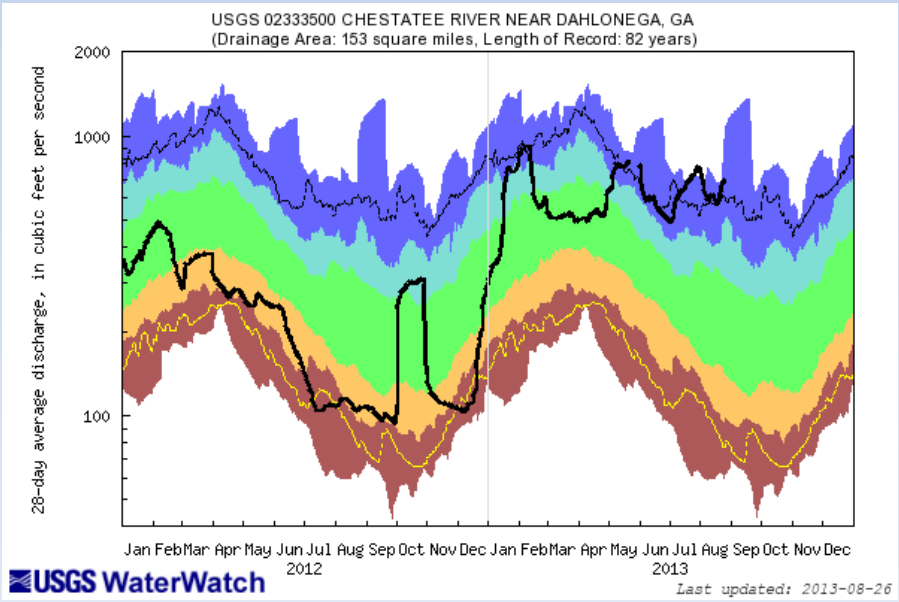
Lake Lanier Inflows

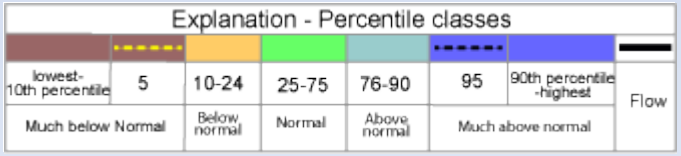
Chattahoochee near Cornelia (02331600)

http://waterwatch.usgs.gov

Chestatee near Dahlonega (02333500)





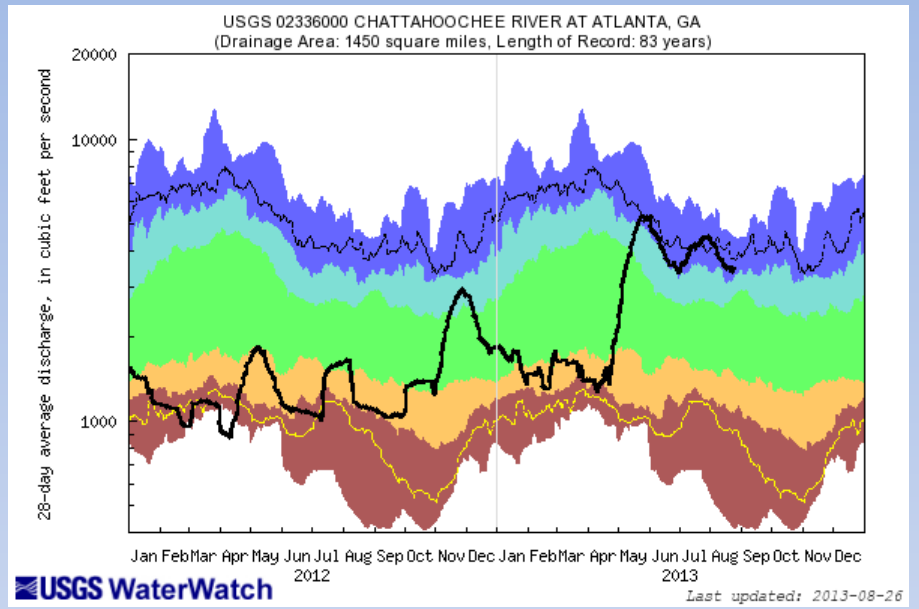


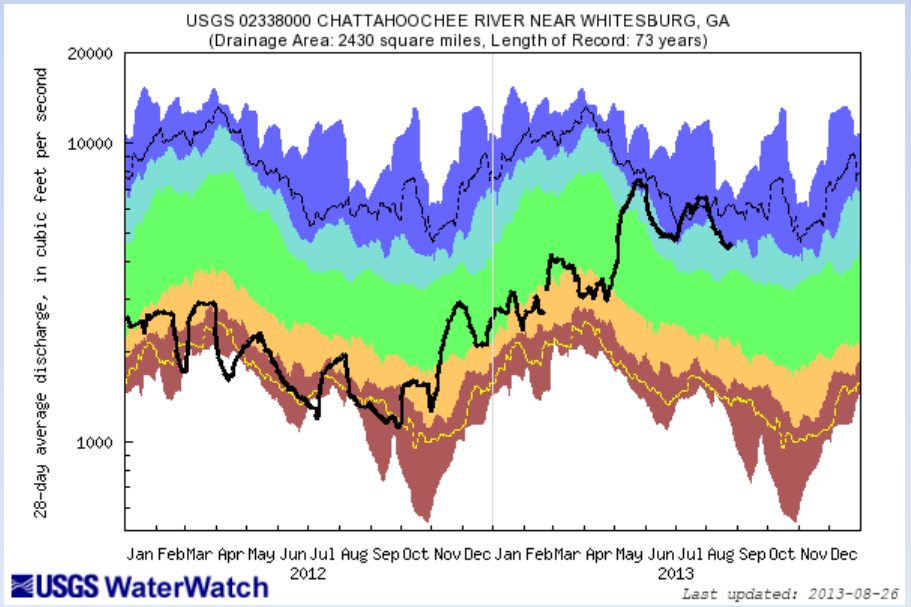
Current Streamflows

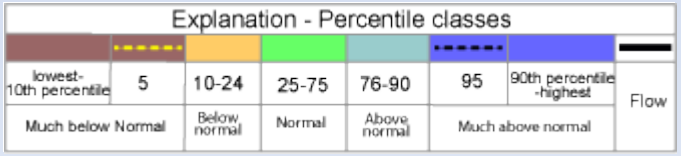
Chattahoochee at Atlanta (02336000)

http://waterwatch.usgs.gov

Chattahoochee near Whitesburg (02338000)

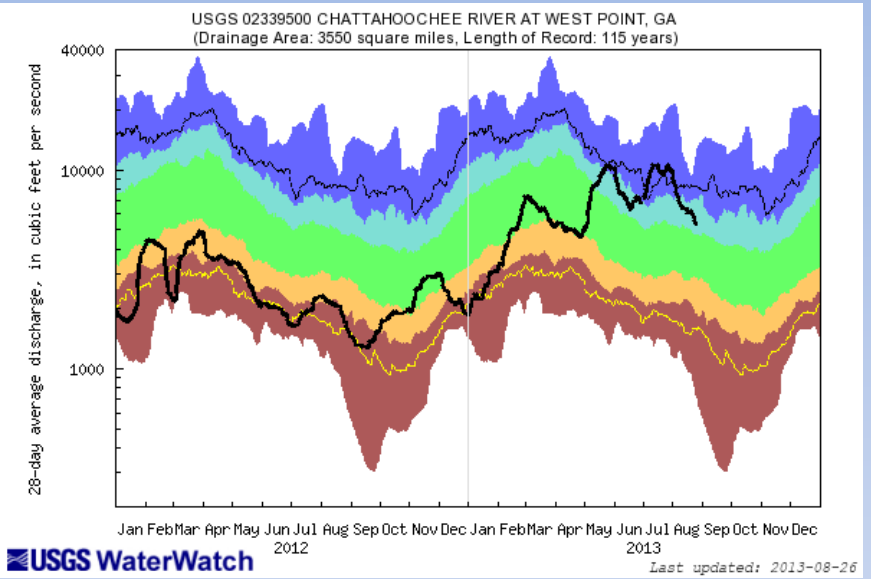






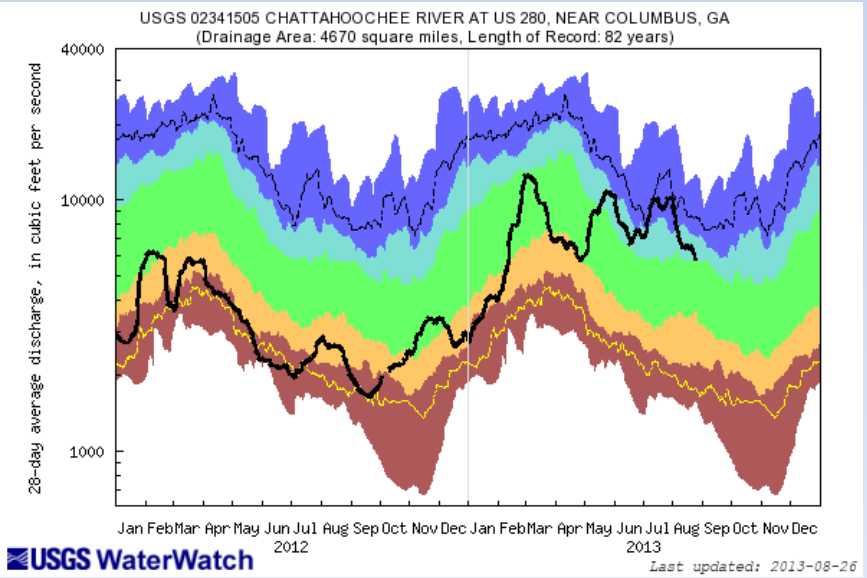
Current Streamflows

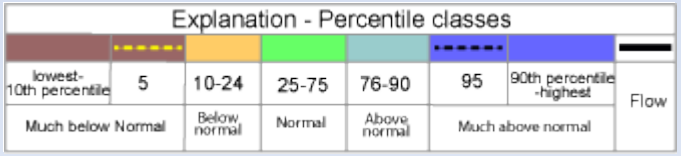
Chattahoochee at West Point (02339500)



http://waterwatch.usgs.gov

Chattahoochee near Columbus (02341505)



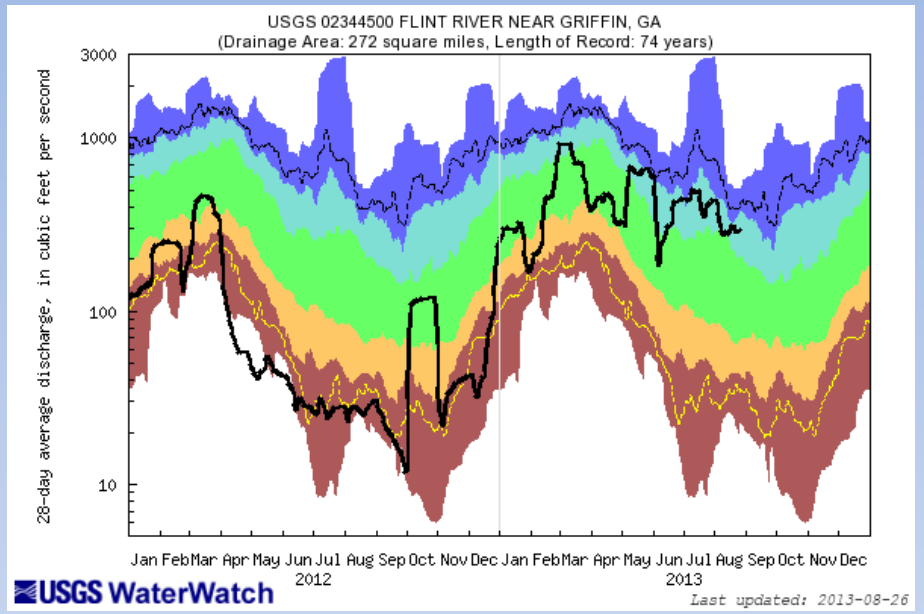


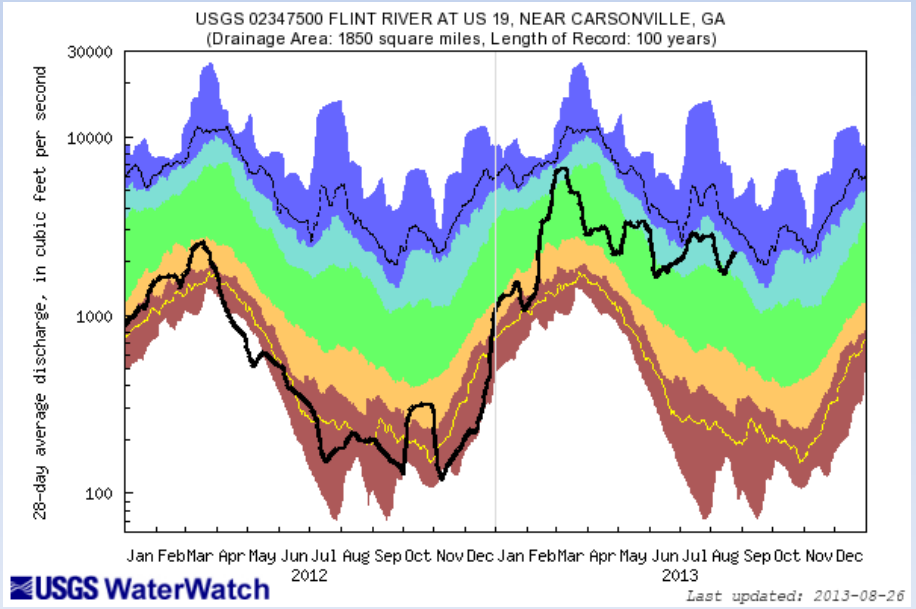
Current Streamflows

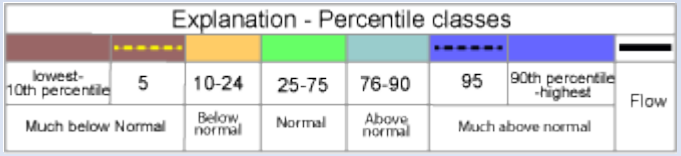
Flint River near Griffin (02344500)

http://waterwatch.usgs.gov

Flint River near Carsonville (02347500)





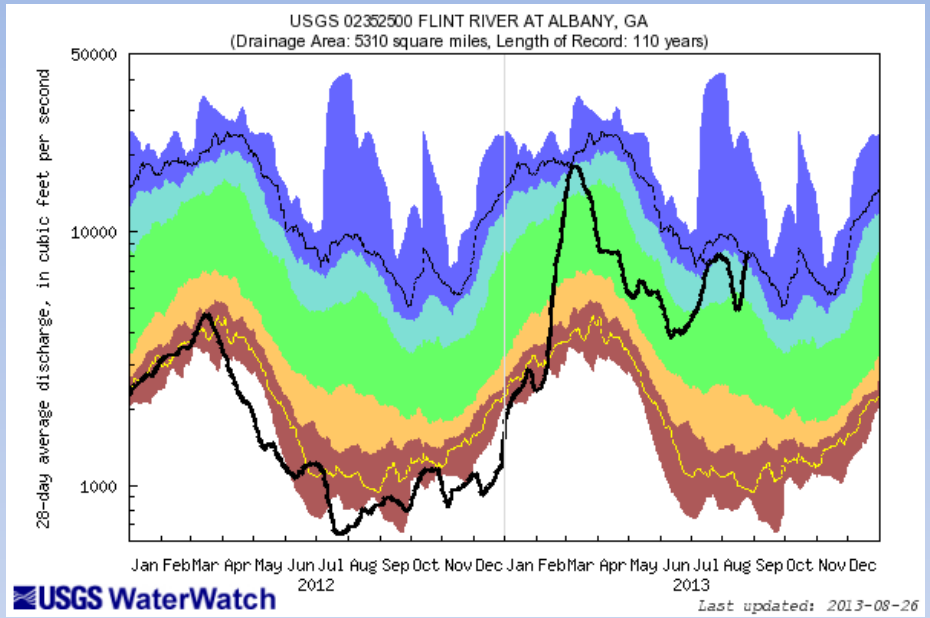


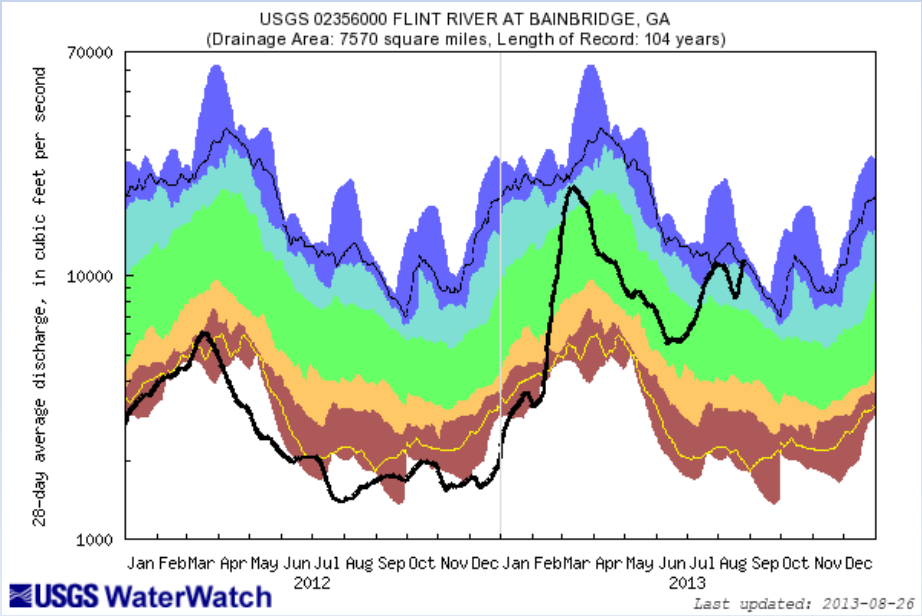
Current Streamflows

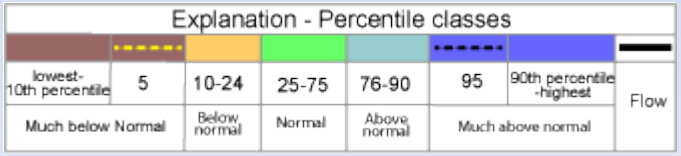
Flint River at Albany (02352500)

http://waterwatch.usgs.gov

Flint at Bainbridge (02356000)

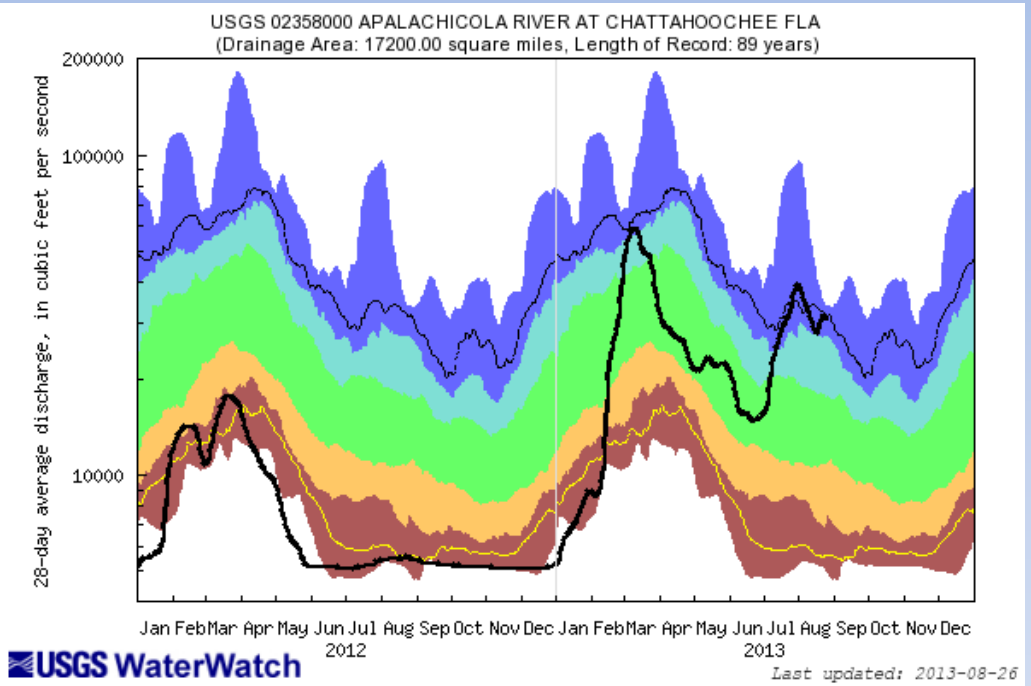


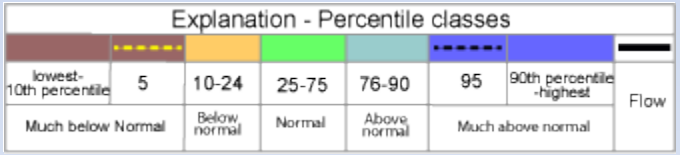




Streamflows

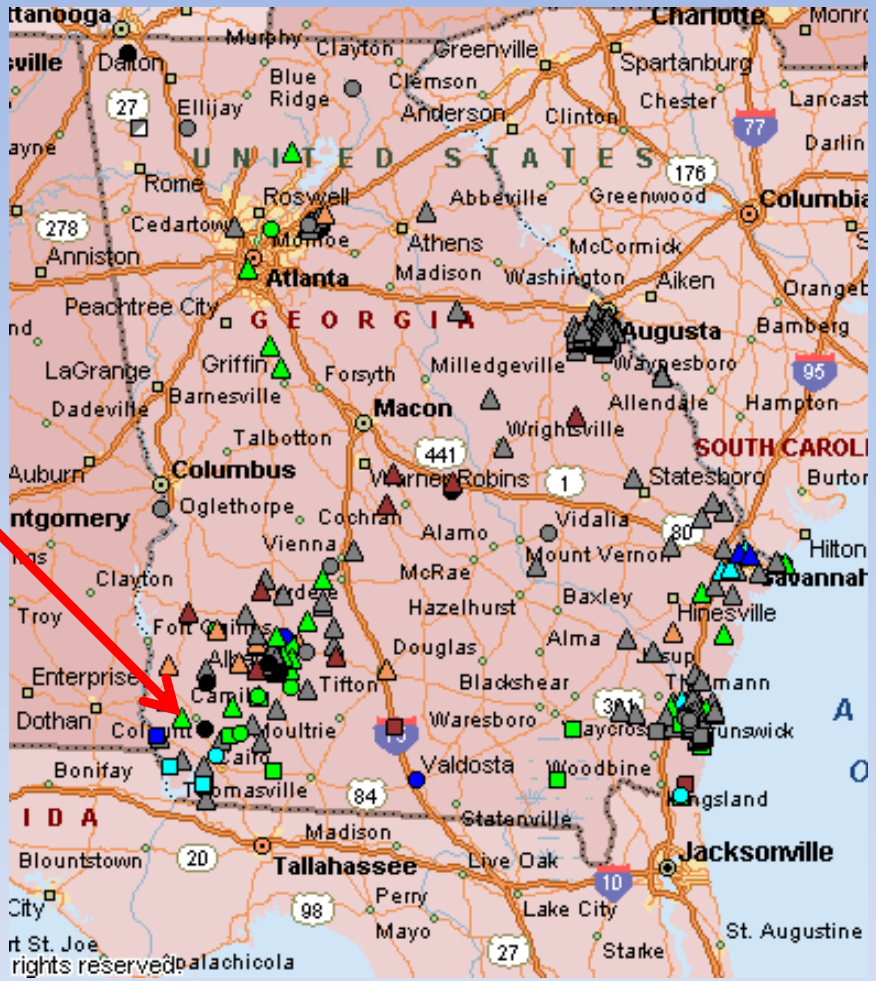
Apalachicola at Chattahoochee (02358000)





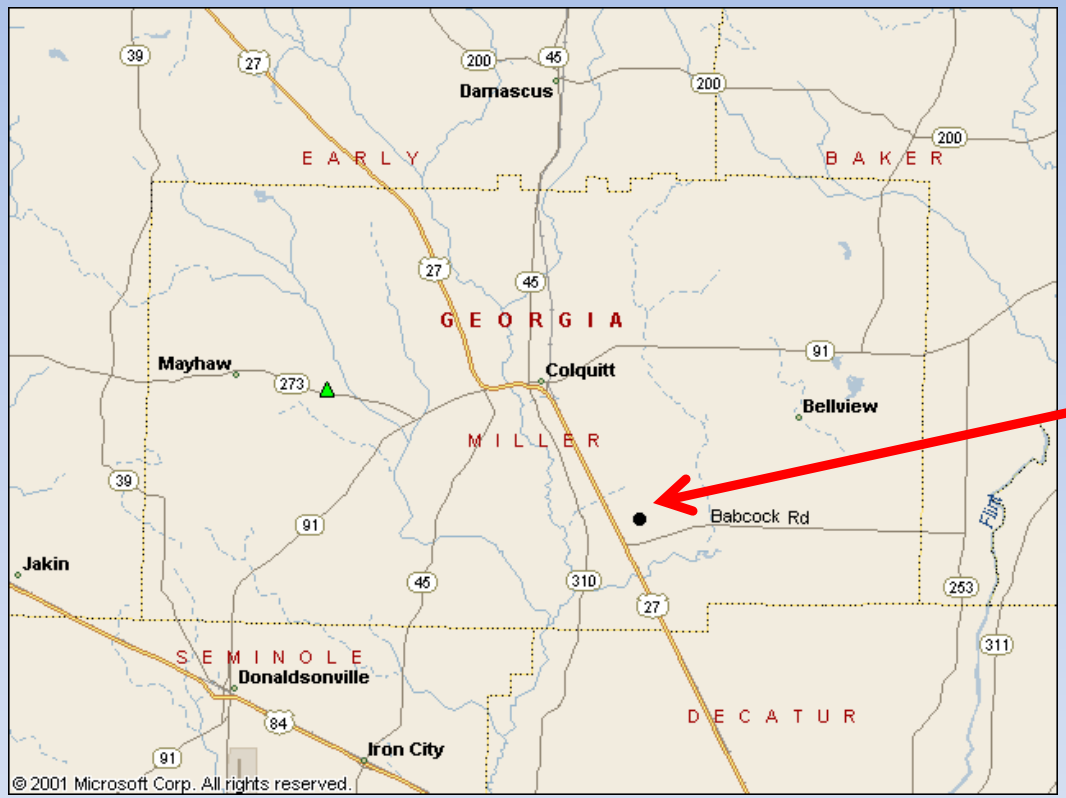
http://waterwatch.usgs.gov

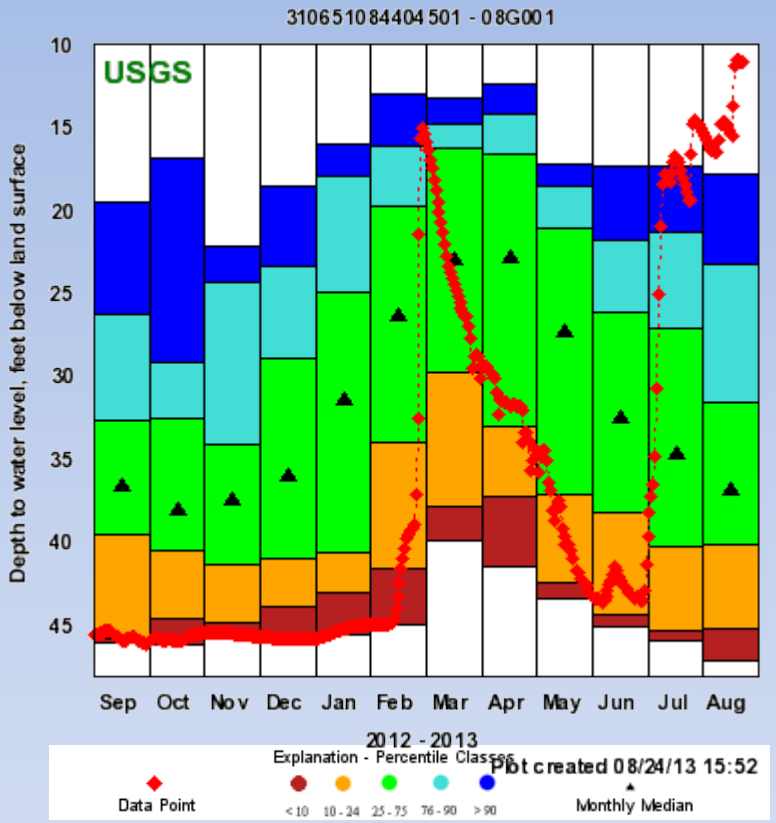
Groundwater Conditions



http://groundwaterwatch.usgs.gov

Groundwater Status



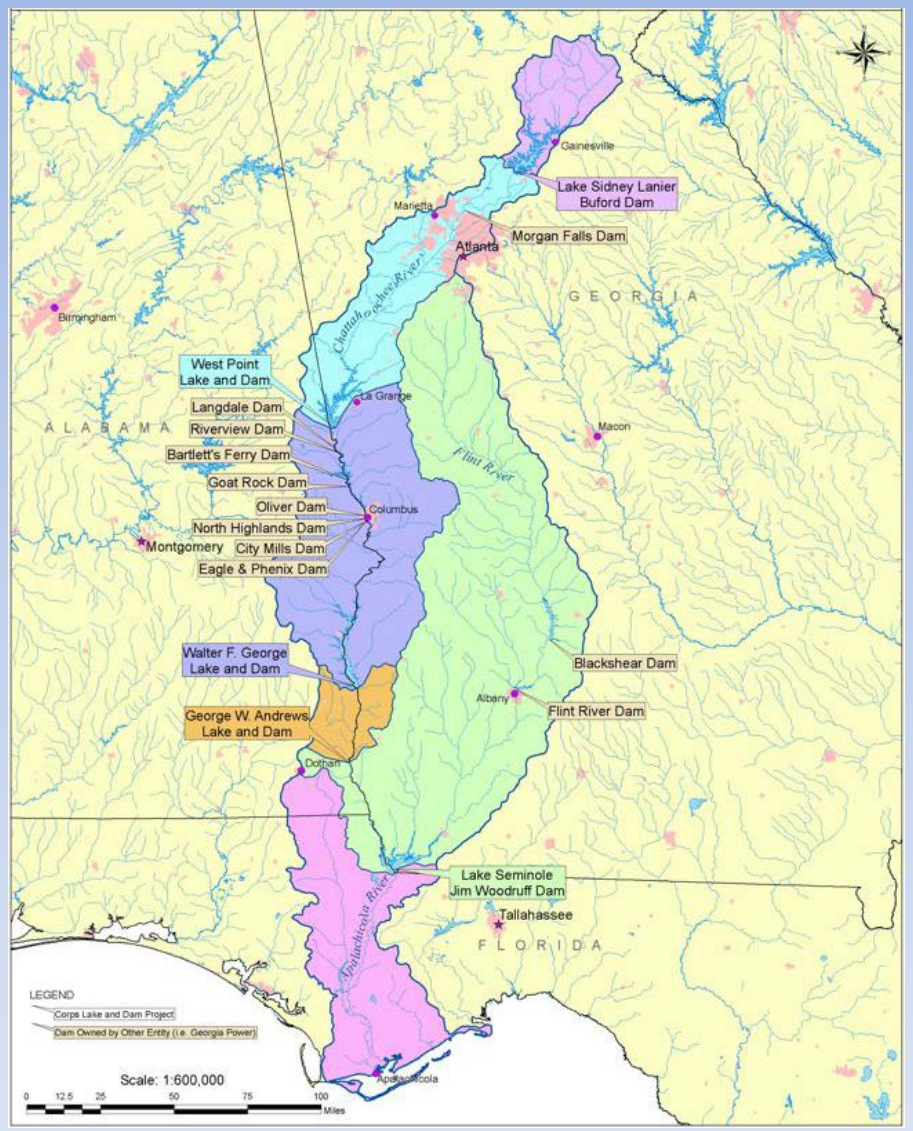


Miller County, GA
(Upper Floridan Aquifer)

Explanation - Percentile classes (symbol color based on most recent measurement)							
Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	High	Not Ranked

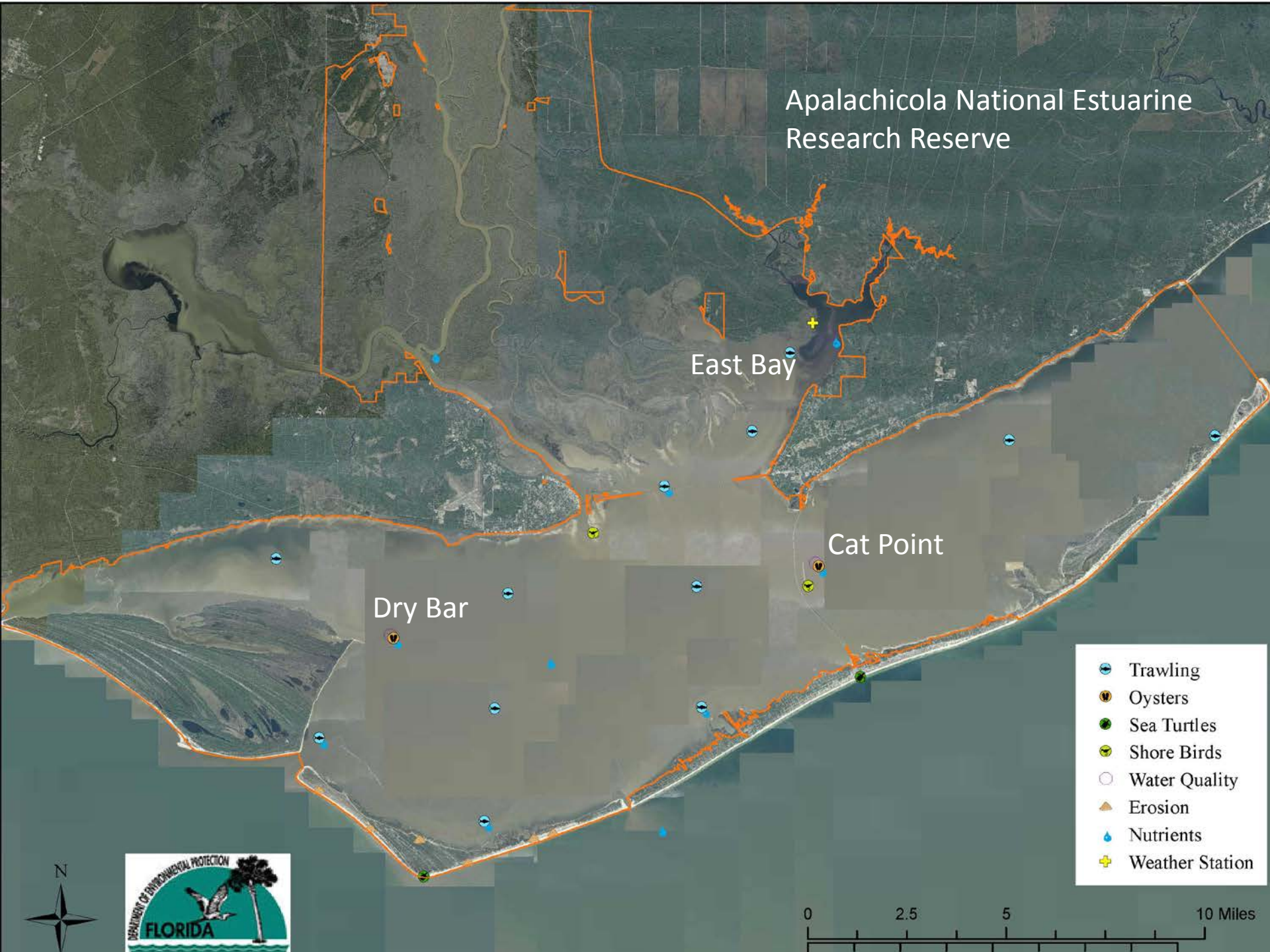
Wells	Springs
Real-Time	
Continuous	
Periodic Measurements	

USACE – ACF Operations

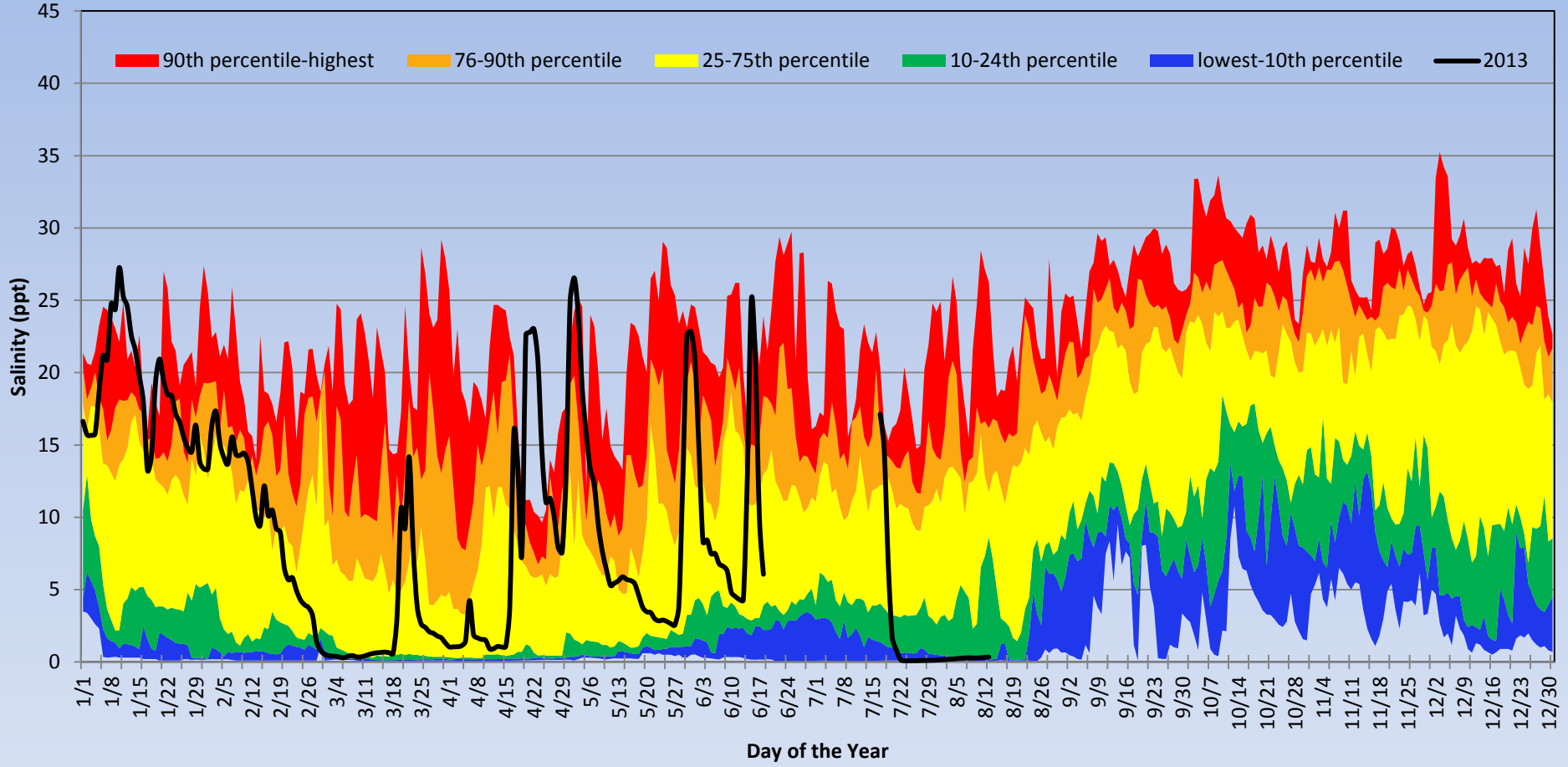


HYDROLOGY & HYDRAULICS
MOBILE DISTRICT

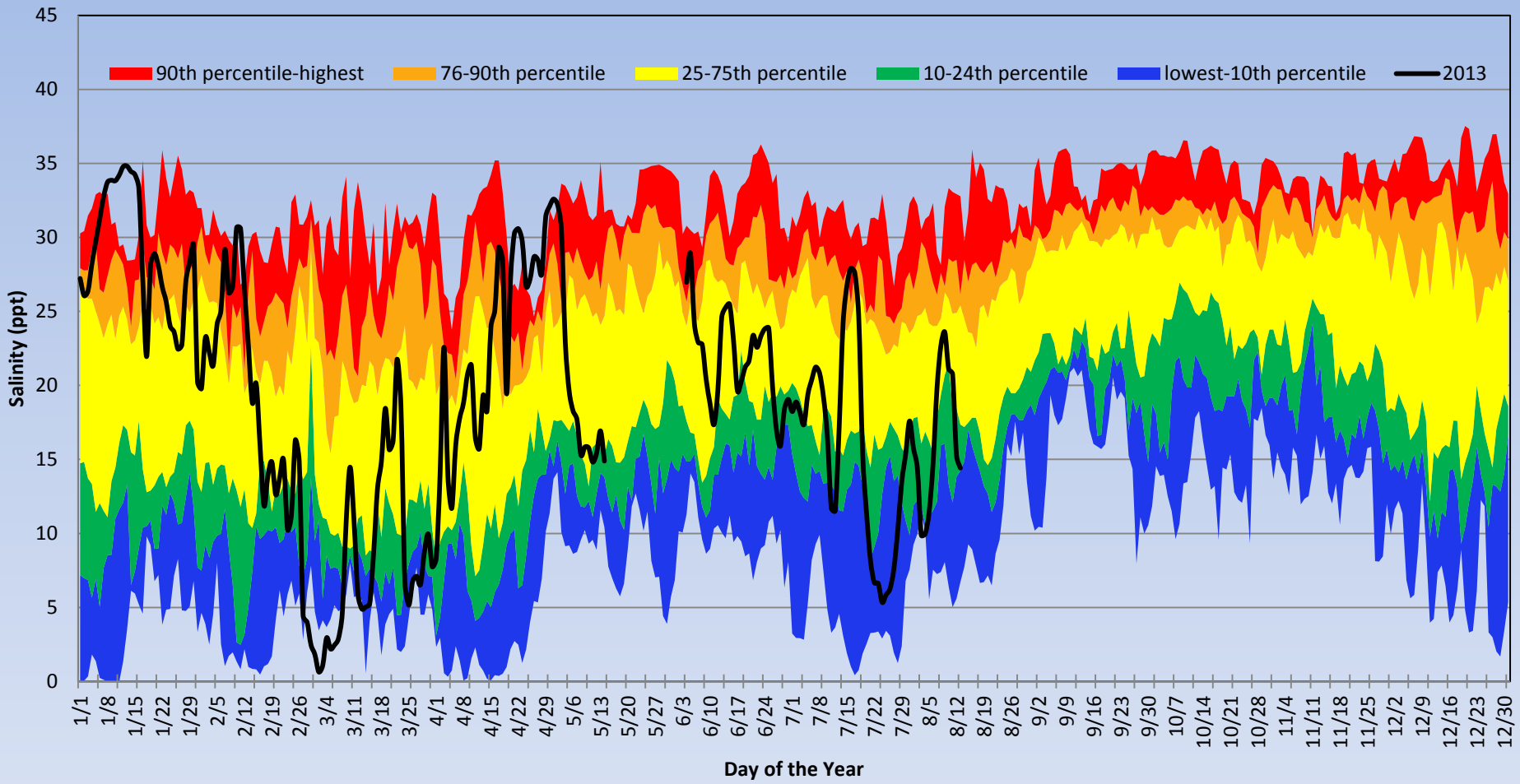
NIDIS
NATIONAL INTEGRATED DROUGHT INFORMATION SYSTEM


Apalachicola National Estuarine Research Reserve
East Bay
Cat Point
Dry Bar
Trawling
Oysters
Sea Turtles
Shore Birds
Water Quality
Erosion
Nutrients
Weather Station
N
DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA
0
2.5
5
10 Miles

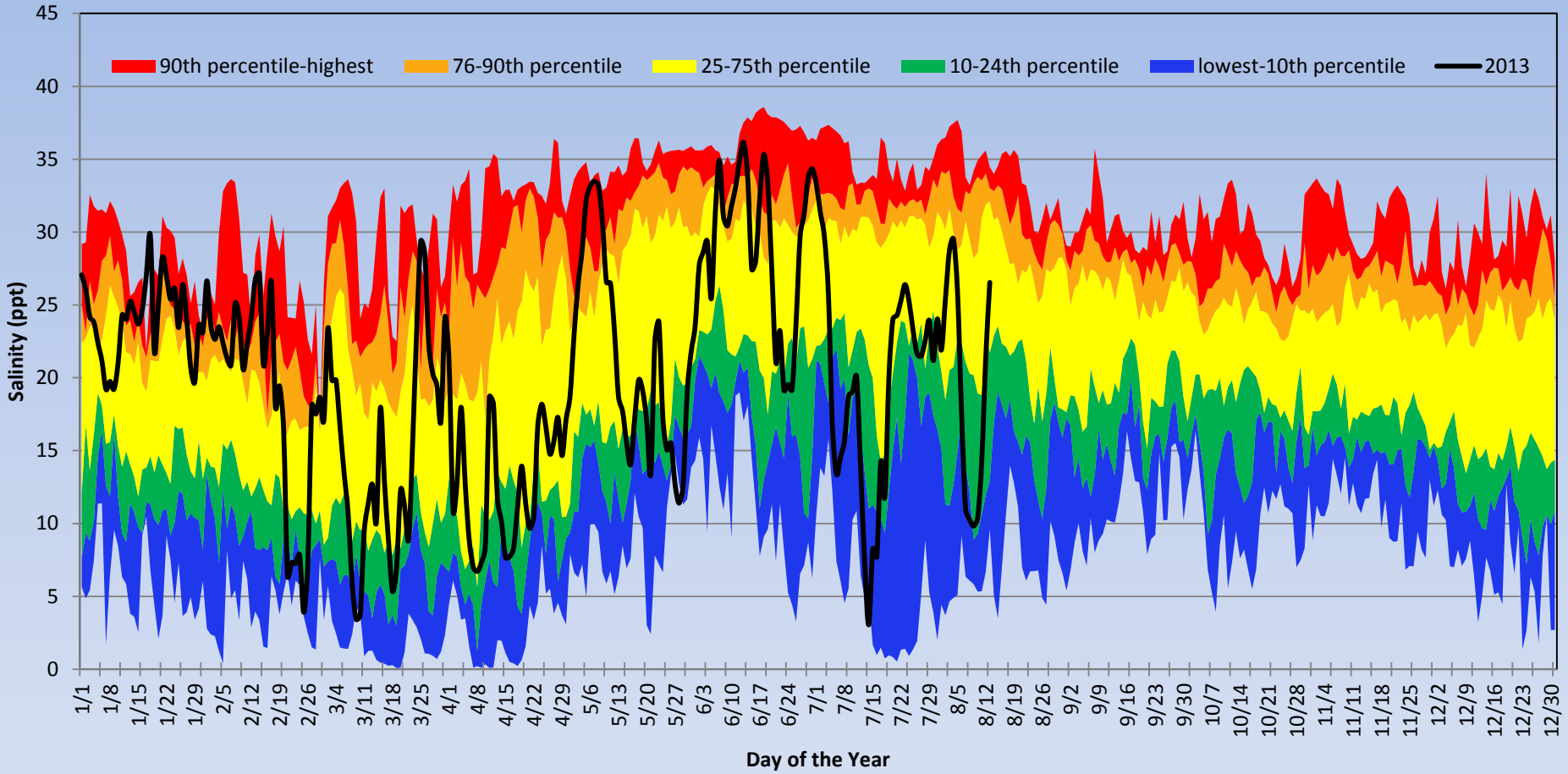
Daily Average Salinity at East Bay Bottom



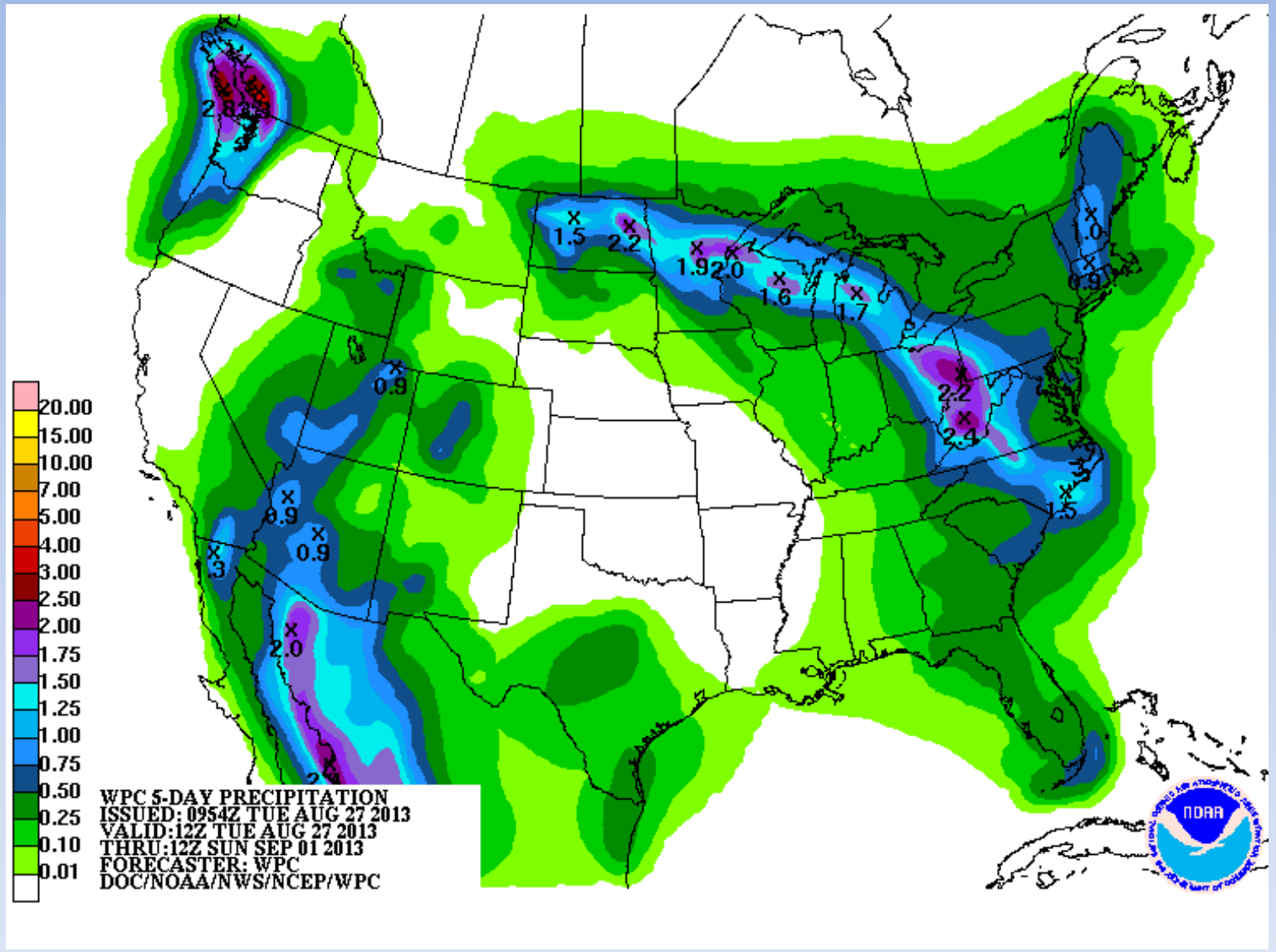
Daily Average Salinity at Cat Point



Daily Average Salinity at Dry Bar

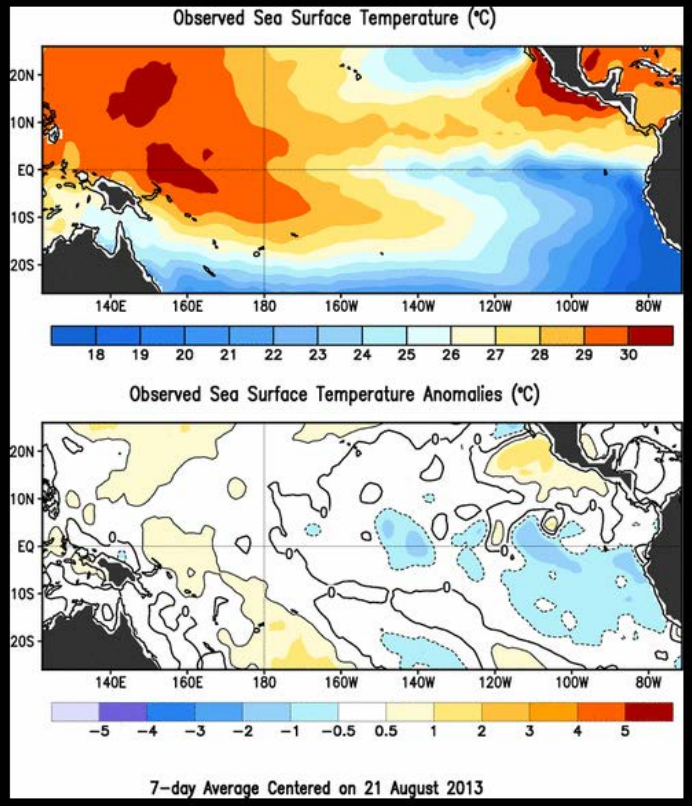


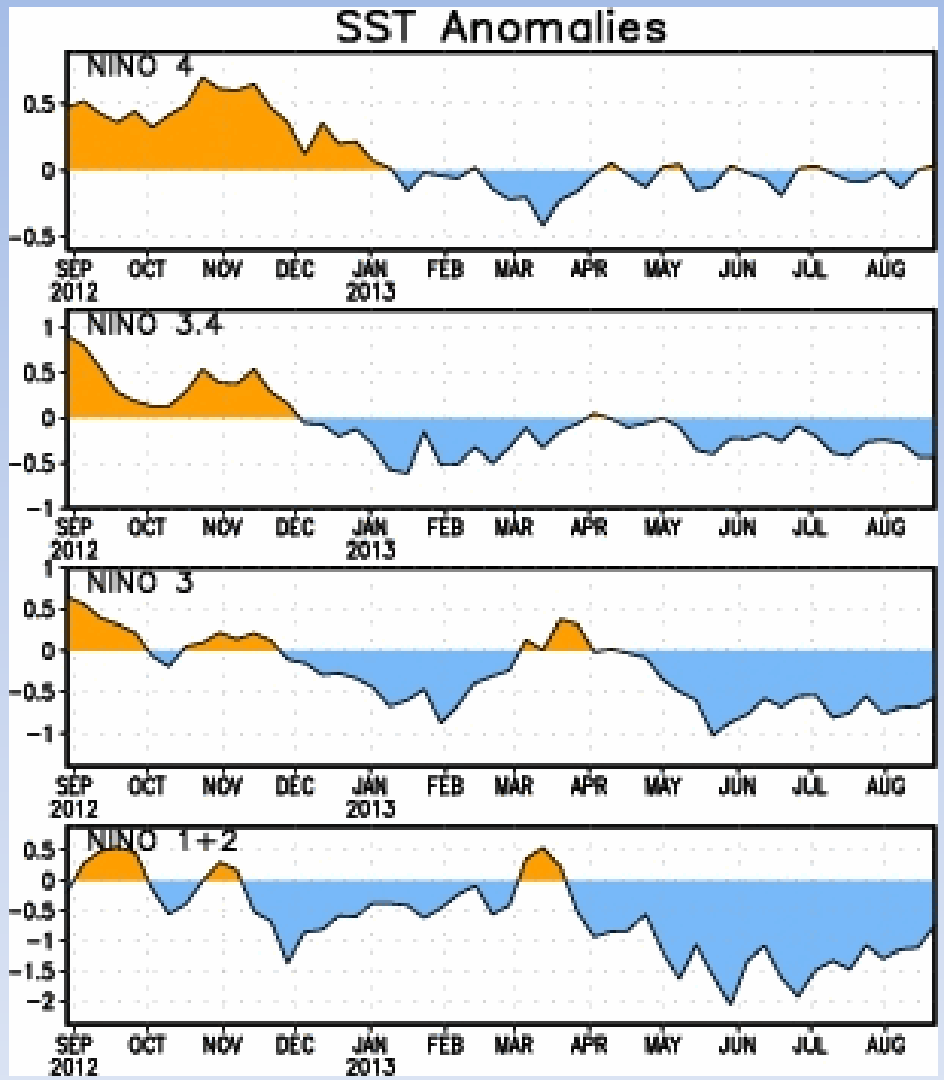
5-Day Precipitation Forecast



http://www.hpc.ncep.noaa.gov/qpf/day1-5.shtml

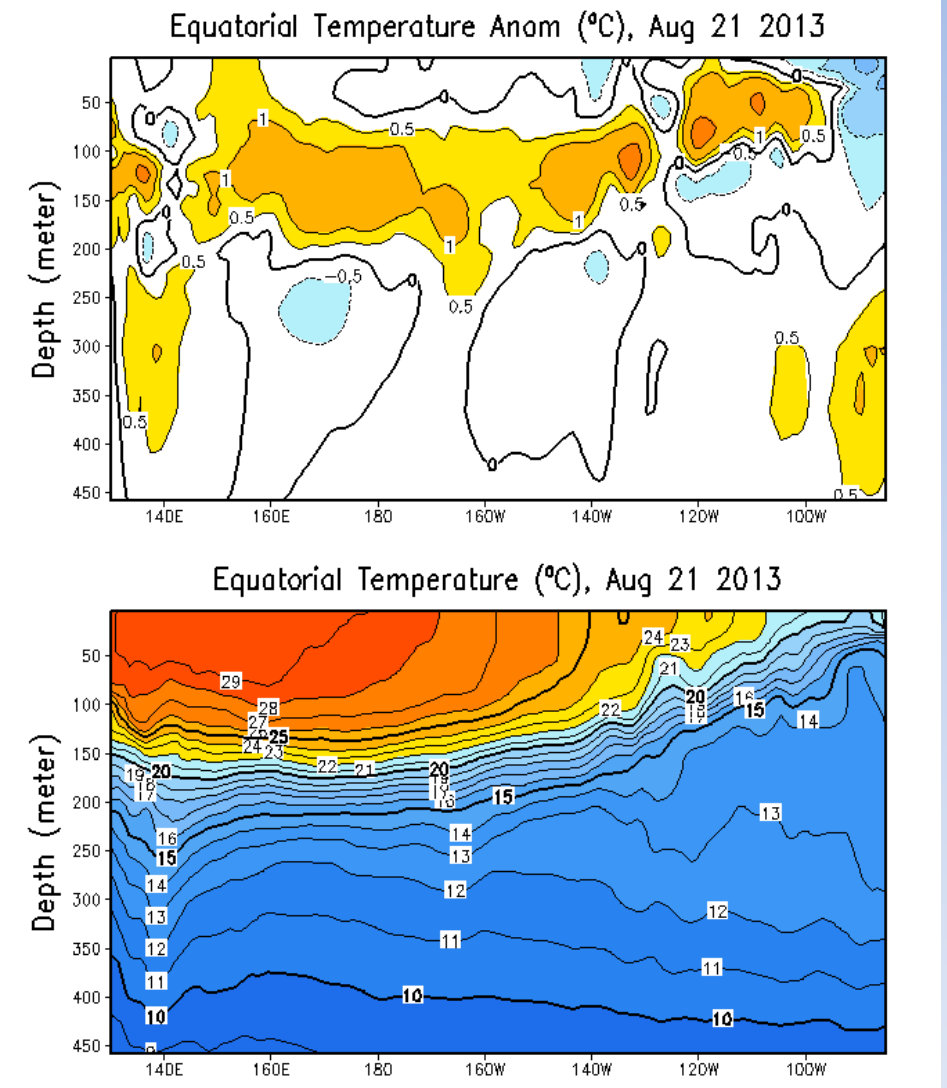
7-day average Pacific Ocean SST Anomalies



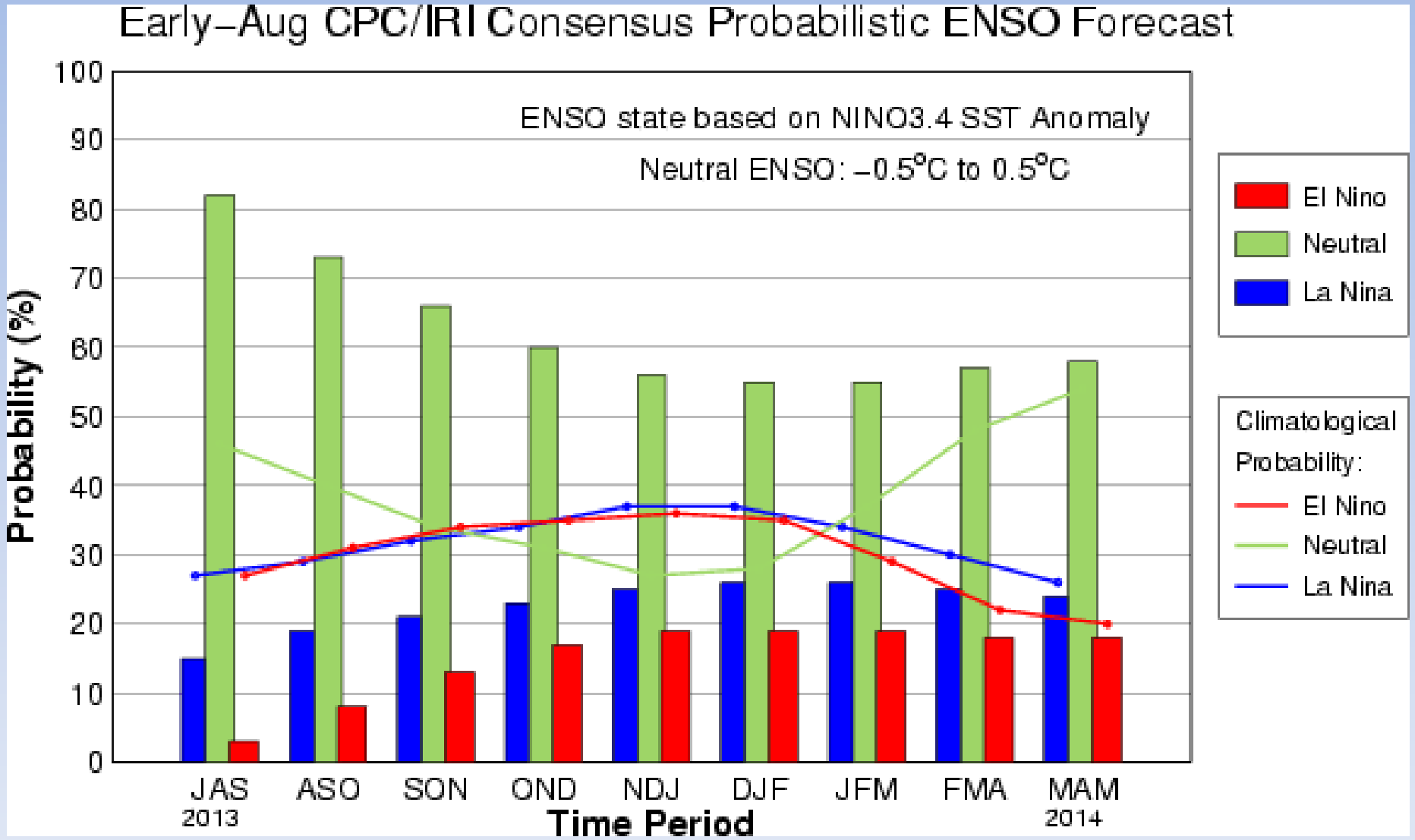


http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/enso.shtml

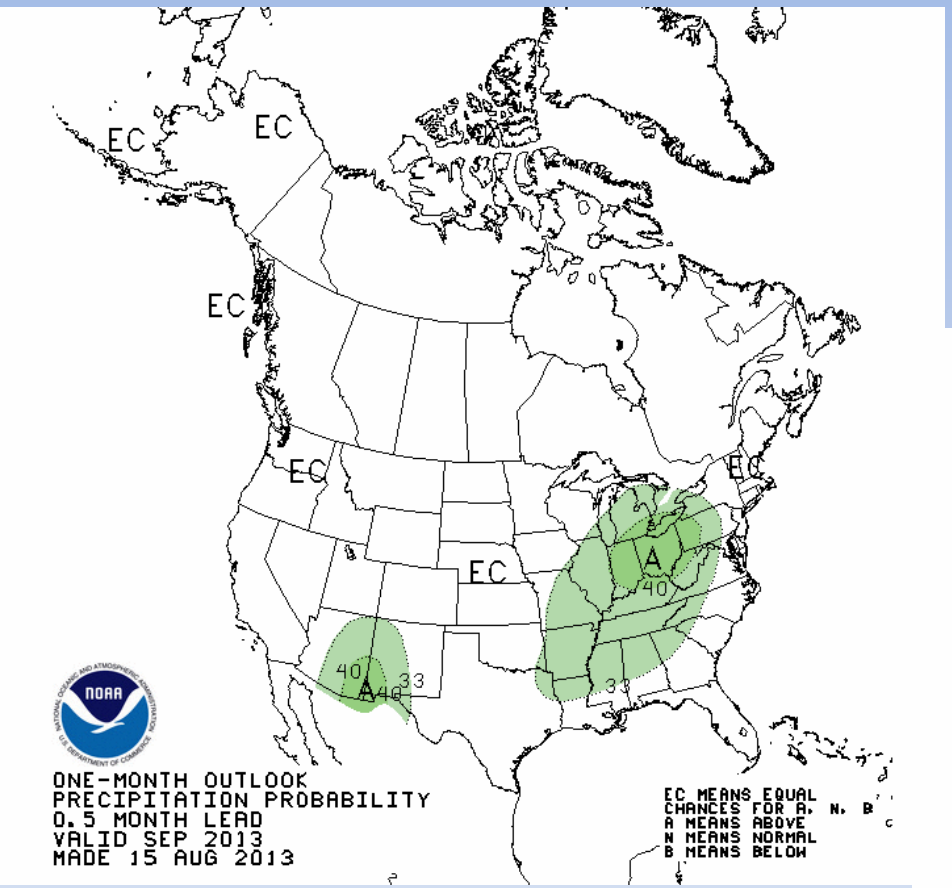
Subsurface Temperatures



ENSO forecast from IRI

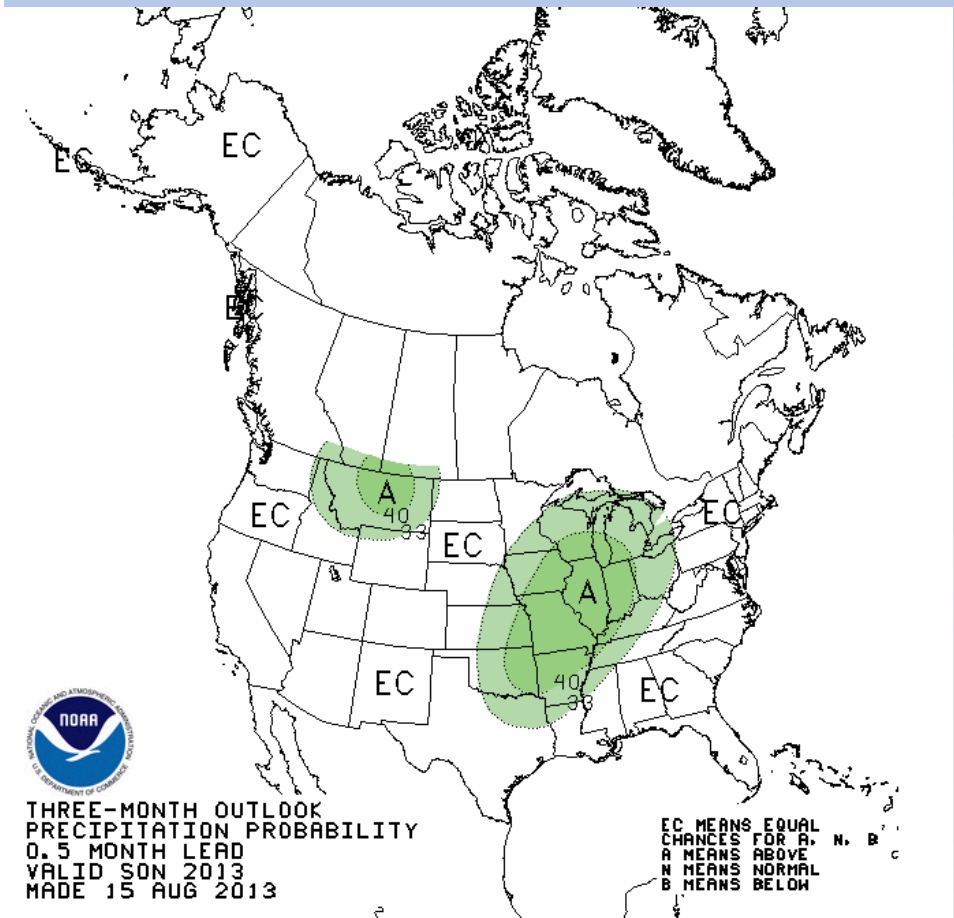


1-3 Month Precipitation Outlook

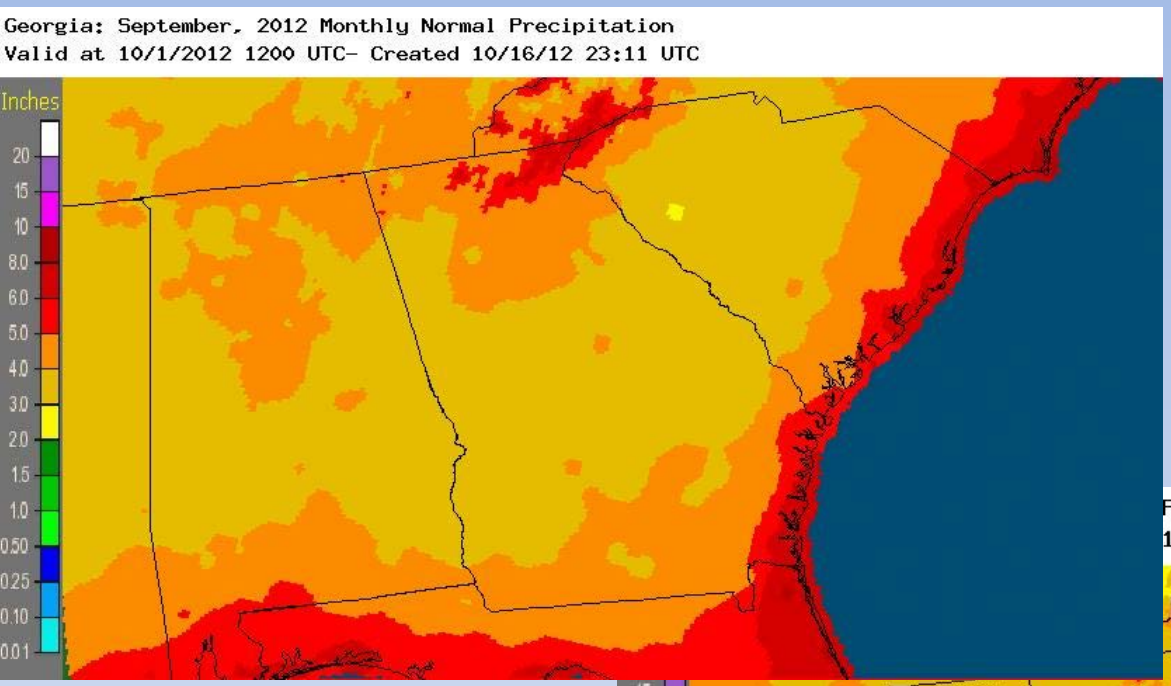


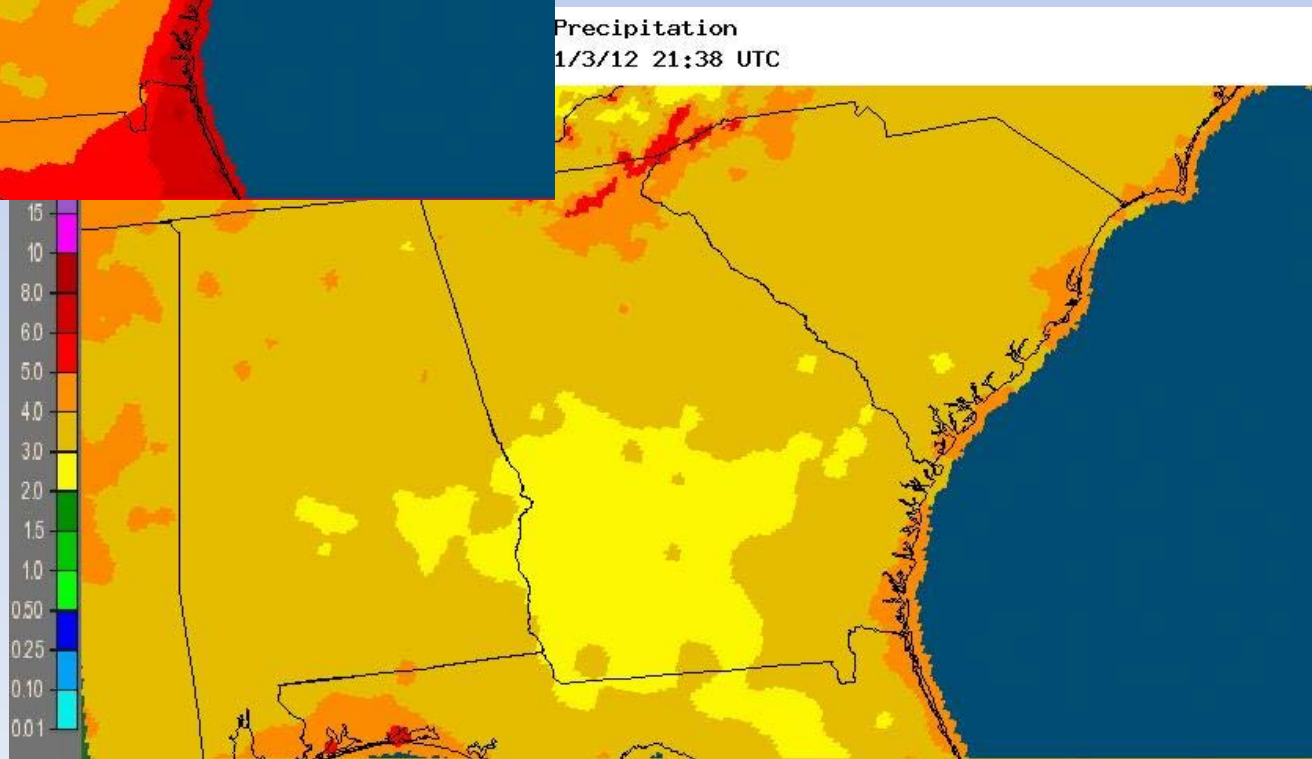
1 Month

3 Month



Fall Rainfall Climatology





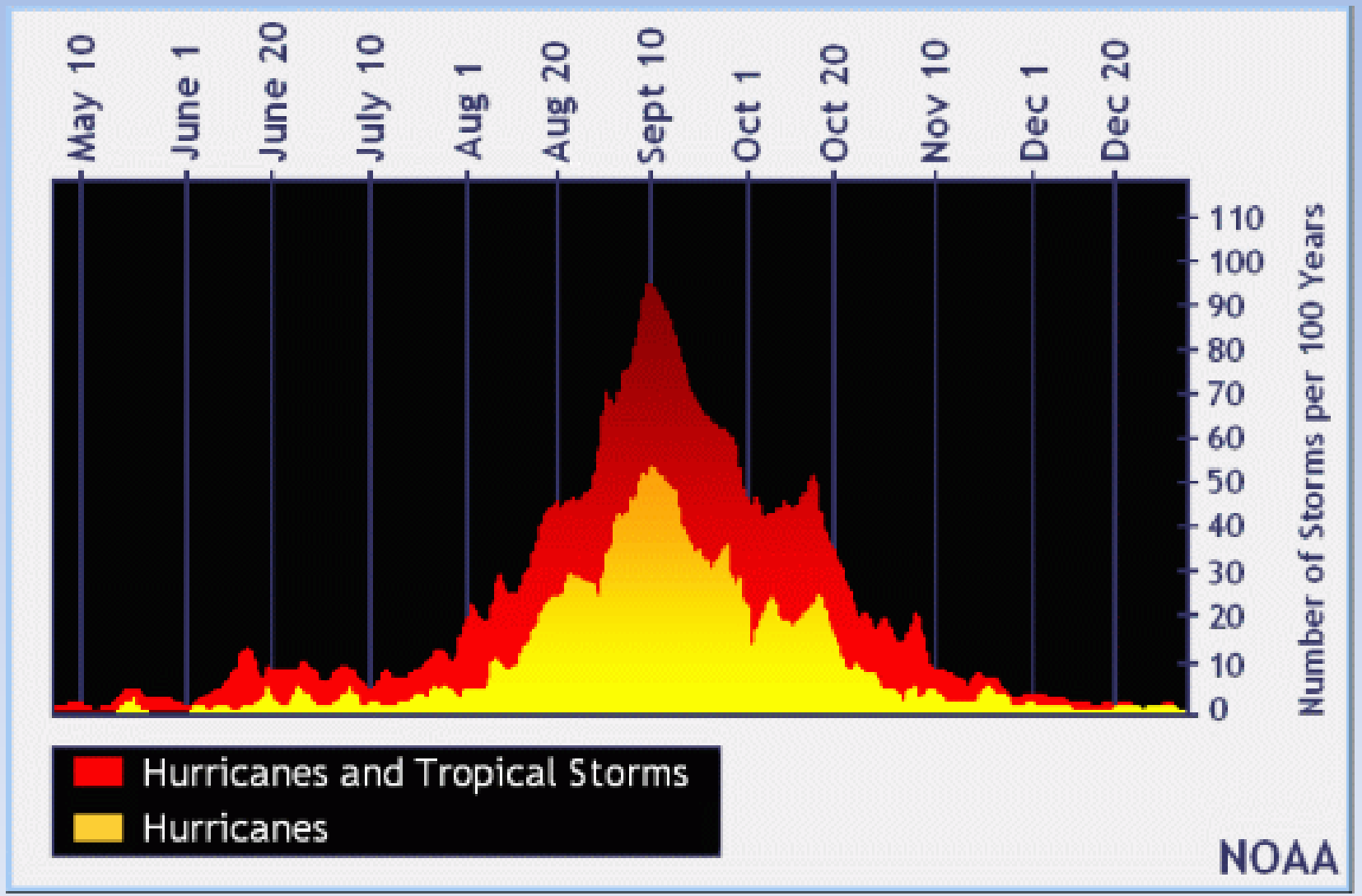
Seasonal Hurricane Outlook

NOAA Seasonal Outlook

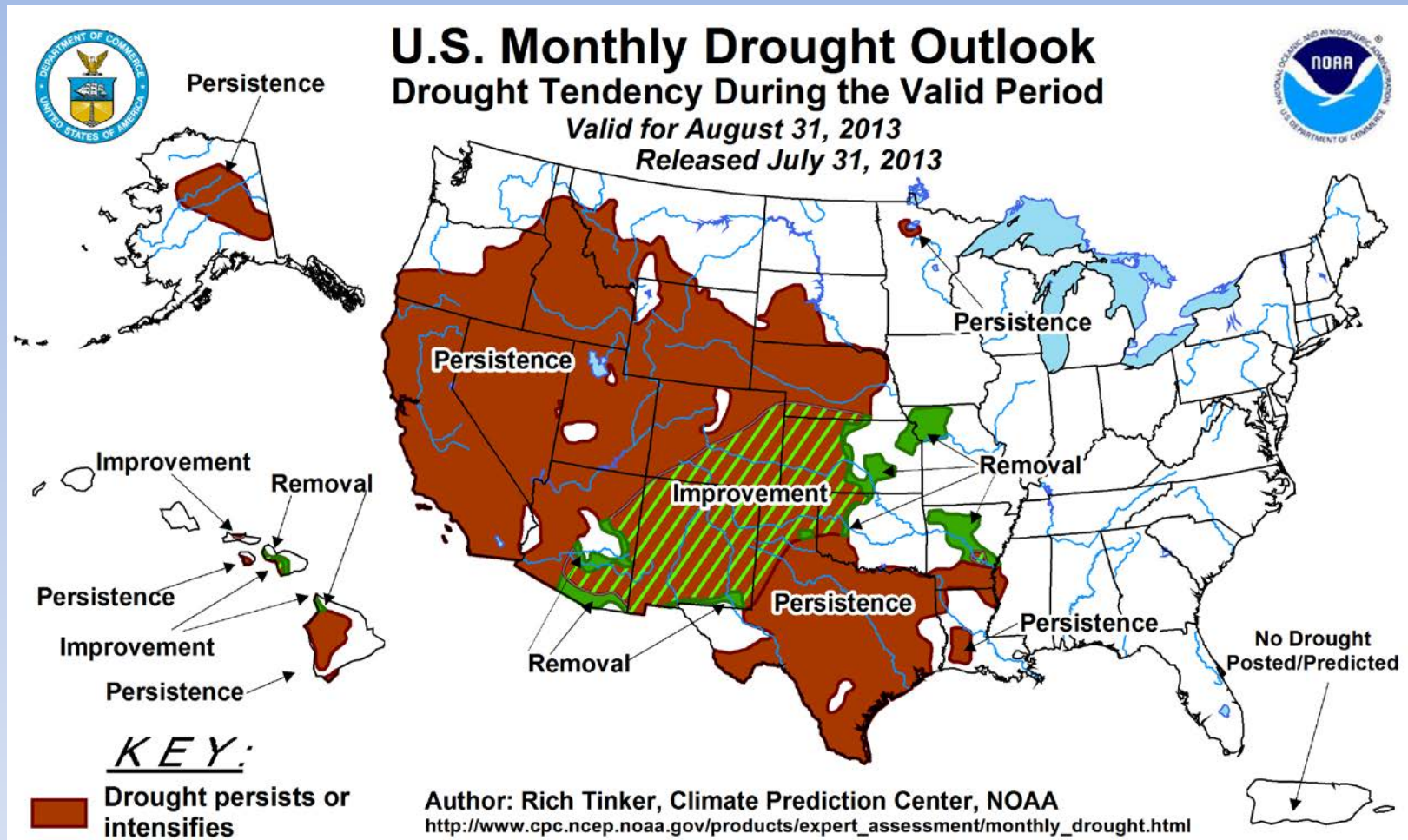
	2013 forecast (70%)	Climatology
Named storms	13-20	12
Hurricanes	7-11	6
Major hurricanes	3-6	3

Only 6 storms so far this year, no hurricanes

Season Climatology



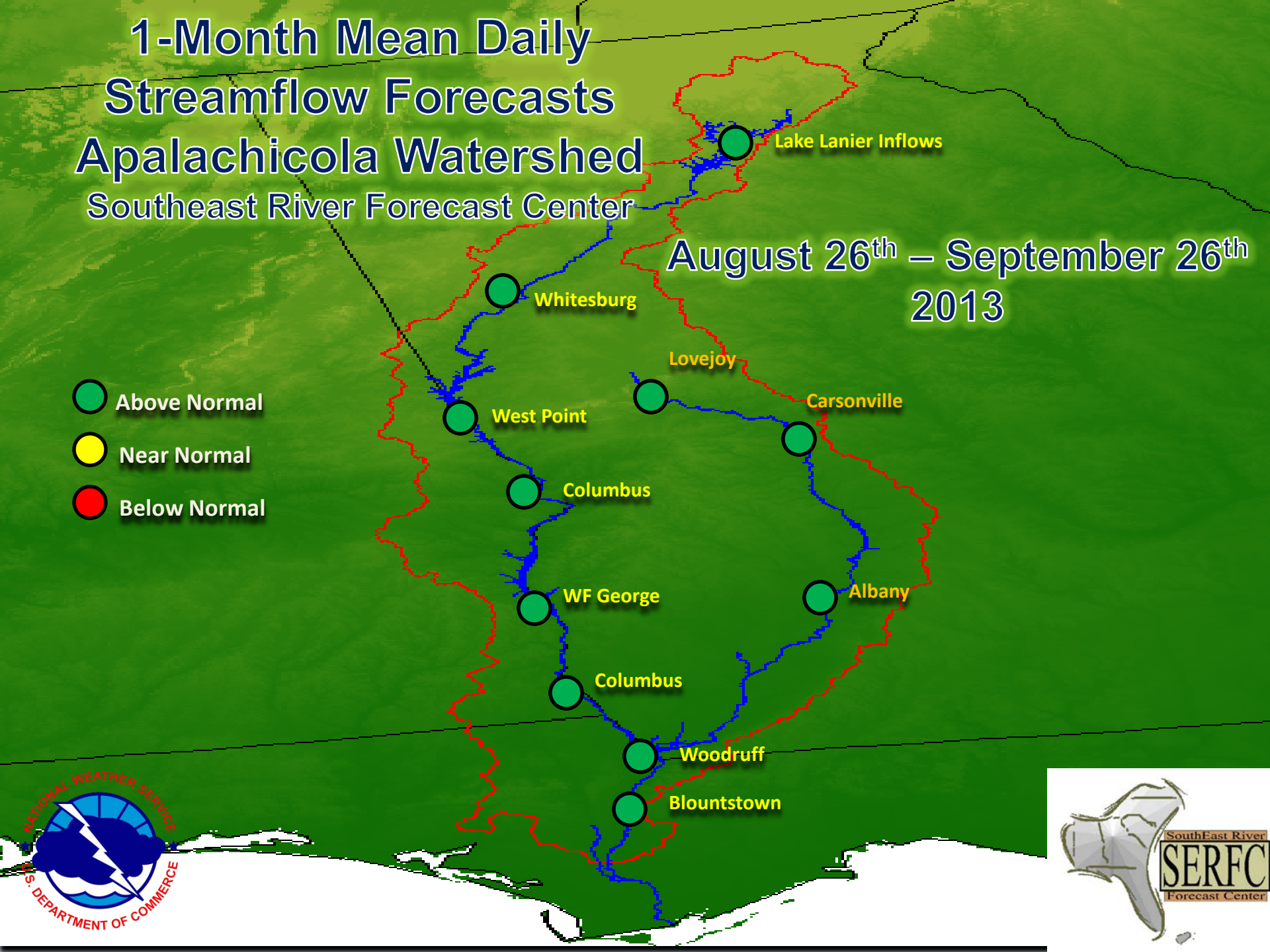
U.S. Drought Outlook



1-Month Mean Daily Streamflow Forecasts Apalachicola Watershed

Southeast River Forecast Center

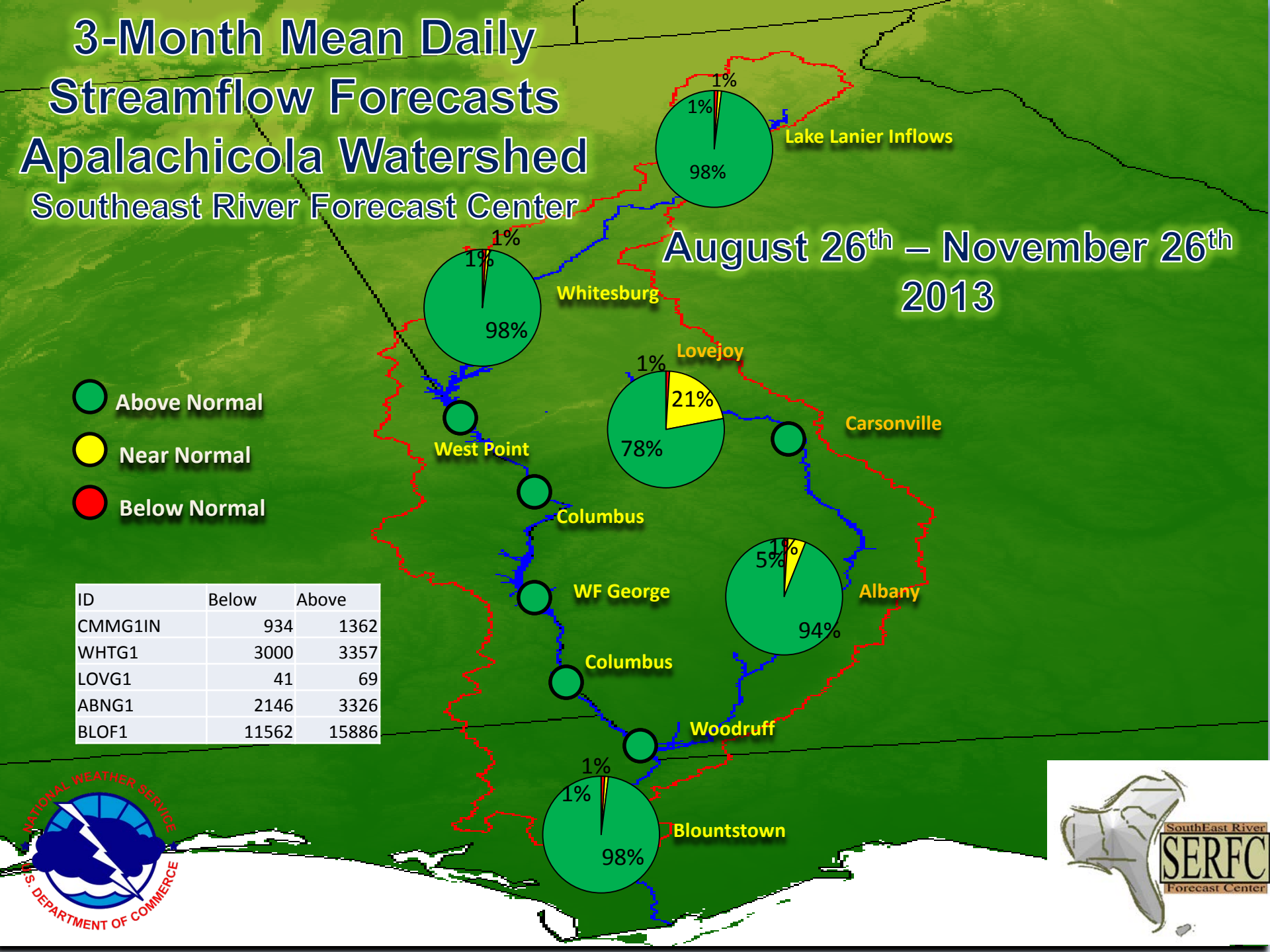
August 26th – September 26th 2013



3-Month Mean Daily Streamflow Forecasts Apalachicola Watershed

Southeast River Forecast Center

August 26th – November 26th 2013



ID	Below	Above
CMMG1IN	934	1362
WHTG1	3000	3357
LOVG1	41	69
ABNG1	2146	3326
BLOF1	11562	15886

NATIONAL WEATHER SERVICE
U.S. DEPARTMENT OF COMMERCE

SouthEast River
SERFC
Forecast Center

Summary

- So far, the spring and summer of 2013 are among the wettest on record, which has resulted in a rainfall surplus throughout the basin
- There is no drought in the ACF basin at present
- Streamflows are above normal throughout the basin and in the top 5 to 10% of historic observations in the northern part of the basin
- Groundwater levels are mostly normal or above normal in the southern part of the basin, with groundwater levels of the Upper Florida Aquifer exceeding historically observed levels in Miller County, GA

Summary

- Reservoir levels are above the top of conservation for Lake Lanier, right at conservation for West Point, and slightly below conservation WF George
- Inflows are 2 to 3 times normal levels in the upper basin and at 178% of normal for the entire basin
- Salinity levels in Apalachicola Bay are highly variable, as is typical, but for the most part they have been in the normal to below normal range over the past month
- The 5-day forecast calls for 0.1 to 0.5 inches of rain through most of the basin

Summary

- ENSO phase remains neutral, which is likely to continue through the fall
- September and October are two of the driest months, with ENSO neutral years typically receiving 3 to 6 inches in September and 2 to 4 inches in October
- There have been only 6 named storms so far this year, but we have not yet reached the time of peak storms, which is in mid-September

Summary

- Both the 1- and 3-month streamflow forecasts call for above normal streamflows throughout the basin, with very small probabilities for normal or below normal streamflows

References

Speakers

David Zierden, FSU

Brian McCallum, USGS

Bailey Crane, USACE

Danielle Jones, ANERR

Jeff Dobur, SERFC

Moderator

Keith Ingram, SECC

Additional information

General drought information

http://drought.gov
http://www.drought.unl.edu

General climate and El Niño information

http://agroclimate.org/climate/

Streamflow monitoring & forecasting

http://waterwatch.usgs.gov

http://www.srh.noaa.gov/serfc/

Groundwater monitoring

http://groundwaterwatch.usgs.gov

Thank you!

Next briefing – 27 August 2013, 1:00 pm EDT

Slides from this briefing will be posted at

http://drought.gov/drought/content/regional-programs/regional-drought-webinars

Please send comments and suggestions to:

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